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SUGGESTIONS

TO

High School Principals

and their Staffs

In connection with

The New Programme of Studies

TORONTO
Printed and Published by L. K. CAMERON, Printer to the King's Most Excellent Majesty
1904

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PREPARATORY NOTE.

During the past year my correspondence and other inspectorial duties were so burdensome in connection with the introduction of the new programme of studies that, to economize time, I now put in the form of a circular my views on some important questions, most of which are continually coming up for discussion.

JOHN SEATH.

86 Walmer Road,
August 26th, 1905.

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SUGGESTIONS TO HIGH SCHOOL PRINCIPALS AND THEIR STAFFS IN CONNECTION WITH THE NEW PROGRAMME OF STUDIES.

ORGANIZATION.

The Departmental Memorandum of August, 1905 (circular 50), draws attention to the requirements of the regulations which were approved in August, 1904. So far as concerns the Junior and the District Teachers' Non-professional Examinations, the regulations as to standard and subjects [Reg. 43 (3), 46 and 48] will come into full force at the examinations of 1906, except, as stated in the circular, in the case of the Geometry for the Junior and of Part I. for each of these examinations. In organizing for the coming year it is, therefore, important for the Principal to realize that the standard has been raised, and that the course is now a fixed one, with a Latin bonus at the Junior. The District, Junior, and Senior Teachers' Examinations are now held, be it noted, solely to ascertain the qualifications of the candidates for a teacher's certificate, although, of course, they may be used as Leaving Examinations also; and it is not unreasonable to anticipate that, in settling the results, the interests of the Public Schools will hereafter be solely considered. It is an open secret that, while the system of Leaving Examinations was in operation, allowances were made which would be unjustifiable under present conditions, and which have injured the cause of popular education in the Province.

The Principal's certificate referred to in Circular 50 is defined by the last sentence of Reg. 50 (3). It should, cover the Lower School courses in Book-keeping, Reading, Physics, and Chemistry, with at least one year's course in each of Art, Botany, and Zoology. As the regulations show, the one year's course in Art is for a whole school year, while the one year's course in each of Botany and Zoology is from September to November, and from April to the end of June. The details of such courses are at the discretion of the Principal, who will no doubt take into consideration the requirements of the future Public School Teacher. In the case of all candidates (including those who failed this summer) whose course has not yet covered all the subjects, the Principal might allow such pupils to go down to one of the Lower School classes when the subjects are being taken up. The same plan may, of course, be followed hereafter in the case of pupils who are fit for the Middle School but who do not possess the required certificate as to competency in the subjects of Part I The resulting interference with their Middle School time-table is one for which the candidates, not the Principal, are responsible, and the interests of the Middle School must not be allowed to suffer For very evident reasons, however, such permission should be given only in exceptional cases.

In some quarters the object and the scope of Reg. 39 (9) have not been appreciated. The object, it is understood, was to enable the Principal to resist more easily the pressure that would in many cases be brought to bear upon him to continue in a congested Middle School time-table subjects and stages of subjects which properly belong to the Lower School. As to scope: Under the regulations, the Geography for the intending Public School Teacher, and the Arithmetic and Mensuration and the English Grammar for other classes of candidates may, where needed, be reviewed after March. A teacher's special course is provided in Arithmetic and Mensuration, and in English Grammar (See pp. 79 and 80*), which the Principal may have in the Middle School as often as he deems it expedient. And, further, unless the parent or guardian objects, the Principal may require other pupils to take these special courses. In view, however, of the ample Lower School provision in these subjects, the extremely moderate requirements of University Matriculation, and, usually, the superior claims of other subjects of the course, it would be wise for the Principal to restrict this special teacher's course to the intending teacher.

But these difficulties of organization are small compared with those which have hitherto confronted the Principal—the pressure of the Departmental and the University examinations with its train of evils; the unreasonable demands of department teachers; the inadequacy of staffs, due to congested attendance and the plethora of courses undertaken; and, lastly, the defective preparation of Entrance and Continuation Classes, the former being sometimes due to laxity at the examinations, and the latter, to the inconsiderate ambition of badly equipped and badly manned Public Schools. These are, undoubtedly, real difficulties; but nearly all of them may be gradually overcome by due liberality on the part of School Boards and, more particularly, by firm and judicious management on the part of Principals themselves. Like the wagoner in the fable, the local authorities must put their own shoulders to the wheel. The relation of the different grades of Continuation Classes to the High Schools requires, it is true, a better adjustment. Until this is made, concerted action on the part of all the Principals in a district, with the co-operation of the Public School Inspector, if that can be secured, should do much to simplify the situation.

In the above enumeration of the Principal's difficulties, the so-called "multiplicity of subjects" has not been included. Experience will, undoubtedly necessitate amendments in the regulations, and the progress of the Public and Model Schools will, in time, relieve the High Schools of responsibilities which are now forced upon them. But, having regard to our present obligations, the new programme will compare favorably in its limitations with that of any other progressive country. There is no subject upon it which could be safely omitted from a well rounded modern scheme of secondary education, or upon the omission of which even a majority of competent educationists would agree. It must be remembered also that, like the Public School programme, the High School one was made to last for a period of years, and that, accordingly, in some of its details, it assumes a condition of the general system which it will take time to produce. "The house that is a-building is not as the house that is built." Moreover, the general advancement of education in this Province cannot be kept back in order that weak but ambitious

*Except where otherwise stated, the pages throughout are those of the new regulations.

schools, whether High Schools or Continuation Classes, may attempt courses beyond their capacity. What is at fault is, not so much the number of subjects on the official programme, as the plethora of courses on many local ones, and a generally defective system for organization. For the former, the locality is itself to blame. The latter is the direct result of examination pressure ; for, in most schools at present, all the subjects of a Form are taken up concurrently, with an apportionment of time determined mainly by their difficulty and their examination importance. Such a system of organization is both unnatural and unnecessary—unnatural because no one but a prodigy would adopt it in private study, and unnecessary, because, even under present conditions, better results can be secured in a saner way.

Experience in Ontario, not to speak of the general experience of other countries, has shown that better results would be secured if the following principles were kept in view :

(1) Not all the subjects prescribed for a form should be taken up concurrently. Subjects and stages of subjects that involve chiefly the memory or mechanical accuracy cannot, of course, be so readily intermitted as those that involve the reasoning powers ; but even here this principle is, in many cases, measurably applicable.

(2) The stress upon a subject should vary according to its character in the different stages of its development and to the pupil's advancement in it and the other subjects of the course.

At present the pupil's energies are dissipated among too many subjects and he is dazed by the monotonous grind at the same subject year in and year out. Arithmetic, for example, he has uninterruptedly for nine or ten years. Concentration of energy and variety of subject matter would be of inestimable advantage to him in the natural and pleasurable development of his powers. The qualifications of the staff and the structural difficulties of the time-table will, no doubt, often prove a bar to the systematic application of these two principles ; but, as most teachers take more than one subject of a department, it should not be difficult at least to improve the general situation.

(3) Care should be taken to cultivate greater independence on the part of the pupil. It is no secret that, at present, there is altogether too much teaching, especially in the classes preparing for examination. With a better standard this fact would demonstrate itself every midsummer. The teacher should, accordingly, exercise greater self-restraint ; and, in particular, study periods should be provided in all the forms. For such pupils in the larger schools, a separate room might also be provided under charge of one of the staff It will take time for both staff and pupils to become used to such a system, but the training the pupils will thus receive in self-reliance should amply compensate the staff for the additional trouble it may involve*.

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* Owing to misapprehension of Reg. 89 (9) in a certain High School, neither the Arithmetic nor the English Grammar was taken up this year in the Middle School until after March. Notwithstanding this, all the candidates at the Junior passed, and passed well, in these subjects. The work had been well done in the Lower School, and was stressed after March. The bearing of this statement and of those below (quoted from letters to me) will prove at least suggestive, in view of the present difficulties of organization. The four Principals concerned are both experienced and successful teachers.

(1) "In Form I. I have never had Euclid. In Form II. I have had two periods. So many leave at the end of one or two years, and so many are quite young, and incapable of connected reasoning, that I do not settle down to a serious study of the subject until the beginning of the third year. The classes then thoroughly enjoy the subject, and make very rapid progress. From the examination standpoint the results are satisfactory, the failures falling short of one a year for the past ten years. In Forms III. and IV. I have three 30-minute periods each a week. In Arithmetic I have three periods of 30 minutes a week in each of three Forms I., II., and III. Much time is spent in grading the work for each year, the first two years being devoted to a thorough course in Commercial Arithmetic and Elementary Mensuration,

The following notes show in a general way how these principles may be applied :

English Grammar should not be stressed at first. It will be enough if, at the end of the first year, the pupil knows well and has perhaps slightly amplified the course now prescribed for the Fourth Form of the Public Schools. (See definition and note on p. 59). On account of its use in connection with the other languages and with English Composition, English Grammar should be taken up as soon as the pupil enters, but it need not be continued throughout the whole first year. After the first year, the subject might be gradually stressed as the pupil's reasoning powers develop, and the serious difficulties should be reserved for the greater maturity of the special Middle School course. (See p. 80 and p. 65, note). English Composition should be stressed throughout the Lower School especially in the first year, being closely connected with the practical side of English Grammar. The subject should also receive systematic attention in the oral and written work of the other classes. (See pp. 66, 68, 69 and 70). English Literature should be stressed throughout the Lower School also during the first year. The pupil usually needs to be trained to read intelligently. This habit the reading courses of the old Public School programme did not inculcate. The fault is remedied in the new one, but it will take time to work the cure. (See pp. 66, 69 and 70).

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with systematic drill in work planned to secure accuracy in the mechanical operations. This latter feature I consider the most important in the two years' work, since annual experiments bring out the fact that not 5 per cent. of the Entrance Class can work ordinary examples in the four simple rules either rapidly or accurately. Taking one year with another, perhaps 5 per cent. of the candidates, chiefly girls, fail in Arithmetic.

"In Algebra I have one 30-minute lesson a week in Form I., three in Form II., and four each in Forms III. and IV. This, I think, is sufficient, except possibly with Form IV. There are practically no failures in Form III. Algebra; but perhaps 10 per cent. fail in the Senior Algebra (I do not mean 10 per cent. of those recommended, but 10 per cent. of all who write).

"I feel quite satisfied that with students of High School ages much time is lost by treating a part of a subject exhaustively, and then giving it little further attention. Frequent reviews, with gradually increasing emphasis on the difficulties, leave the Students encouraged, hopeful, aggressive, and prepared.

"I do not intend to change the number of periods in Mathematics in the Lower School.

"I may add that in Junior Forms, corresponding to Lower School Classes, I exact very little home work. I have an understanding with these classes that, if they enter into the regular class work with the same spirit, earnestness, and vim as they would on a base-ball field or a tennis-court, the home-work exacted will be merely nominal. Last year with the Form just below the Junior Teachers and Junior Matric. I tried this throughout the year, and secured the best results I ever had. In Algebra we covered the work to the end of quadratics; in Euclid, Books I. and II. with easy deductions; and in Arithmetic the full course outlined for Junior Teachers; and I think the average of the class for home-work for the three subjects combined did not exceed half an hour daily. Of course, in Junior Teachers' work much more time is necessary."

(2) "During the past two years I took Middle School Geometry five spaces per week (35 minutes) for the first five months of each year; then Arithmetic in these same five spaces on the time-table for the next four months; and in the last month I reviewed both Arithmetic and Geometry. I feel confident that the success of the class has been greater by taking these subjects intermittingly than concurrently.

"Our time-table (1904–1905) was constructed with five spaces (33 minutes) in the forenoon. After three months I cancelled all the subjects in the first space on the time-table, and divided the forenoon equally amongst the remaining four spaces, and continued this for one week. The following week I cancelled all the subjects in the second place on the time-table, and divided the forenoon equally among the remaining four spaces. Then I cancelled the subjects in the third, fourth, and fifth spaces in the same way, and began again with the first. This increased the morning spaces from 33 minutes each to 45, 40, 40, and 40 minutes, at the small cost of giving some subjects a week's rest. About April 1st I resumed the 33 minute spaces, because the work had all been covered, and the shorter spaces served as well for review."

(3) "Our General School is organized into five Forms, with sub-divisions, the Fourth Form containing the candidates for the Junior. For two or three years we have tried the plan of intermitting for a time some of the subjects. We take History during the first year, and then drop it until the Fourth Form is reached. Drawing is taken every day the first year, and afterwards only advanced work for those needing it. Geography is taken in the second year only, and every day. Geometry is begun in the second year, after the Geometrical Drawing of the first year. Book-keeping and Commercial Transactions is taken in the second year only. No formal Literature is taken the first year; Supplementary Reading is emphasized. German is begun in the Third Form. We have no Greek.

"We made these arrangements to try to relieve the pressure and consequent dispersions resulting from the multiplicity of subjects in each year, and we would not voluntarily go back to the usual arrangement of all the subjects all the years. Two hundred lessons in a subject in one year is much better than the same number of lessons spread over two or three years.

"I should like to carry our plan of intensive study with intermissions further still, and I hope to be able to overcome the difficulties in the way.

"With us, Continuation Pupils coming in without proper preparation must go back to their proper level in the unprepared subjects."

History is largely a memory subject, at first. The essential facts, therefore, should be acquired when the memory is plastic. Even in the Lower School, however, it will serve a good purpose to vary the stress, and even to intermit the subject. But History lends itself better to the latter mode of treatment in the later years when the pupil is able to appreciate the logical sequence of events and to work with greater independence. In the Upper School, indeed, the teacher's guidance is needed more than direct teaching; for, there is hardly any other subject in which, at this stage, the pupil can do more for himself (See pp. 66, 69 and 71). The distinguishing feature of the High School course in Geography should be the prominence given to its Physical side. Accordingly, the work for the first year should consist of an elementary course in the Commercial and Astronomical subjects, without burdensome details, and a mere introduction to the more difficult subject of Physical Geography. If taken throughout the whole year, this course should not consume more than a couple of periods a week, and should stress the Commercial and Astronomical parts more than the Physical. The second year's work, however, should be a stressed one in Physical Geography, introducing the present authorized High School text-book and reserving the more difficult portions to be taken up with the review after March in the Middle School. (See pp. 67, 81 and 82.)

As to Mathematics: Reference to pp. 66, 79 and 80 will show that the prescribed development of the course in Arithmetic is different from that in vogue under the old regulations. The change has been made, not only to meet the necessities of pupils in the general course, but to improve the department of Mathematics itself by securing due economy of effort. All classes of pupils now take together the Lower School Arithmetic, in which "the processes and problems in the commercial work are such as find direct application in ordinary business life, in which accuracy, rapidity, and neatness of work are aimed at, and in which proofs of the more difficult formulæ in Mensuration are not required." (See p. 66.) The serious difficulties of the subject need not be taken up with the pupil in the general course at any stage. Provision is made for their consideration in the special teacher's course in the Middle School. The great defect of the teaching in both English Grammar and Arithmetic has, in many cases, been the unreasonable difficulties of the work of the earlier years—difficulties which can be overcome with far less effort at a later stage. Moreover, it must be borne in mind that our programme consists of courses of study, not of a collection of isolated subjects; and that the power a pupil gains in the study of each is available throughout, especially in the study of those that are correlated with it. From the conditions, Arithmetic should be stressed for the greater part of the first year, Algebra being then taken for about a couple of periods a week and being thereafter the subject that is stressed. If, indeed, the Middle School course is a two years' one, as it is in some schools, both the Arithmetic and the English Grammar of the special course may be intermitted for the whole or the greater part of the first of these years. Hitherto, under the old programme, Geometry has often been omitted until the second year or taken up after Christmas or Easter of the first. Owing to its character, the Practical Geometry might be taken up hereafter towards the end of the first year (See "Art Course" further on), and the rest of the course should certainly not be stressed until the Middle School.

The languages involve so much memory work of an unfamiliar character that they must be stressed throughout, although, naturally, there will be varying stress and even intermittence in the components of the course in a particular language. As we are now situated, only Latin should be taken up at first, a short lesson a day being provided, if at all practicable. Oral work in French for a couple of periods a week should be provided as soon as the pupil has mastered the initial difficulties of Latin, the subject being stressed the second year and thereafter. At present, in the smaller schools, French is often not taken up until the second year, but it is then stressed from the first. Under ordinary conditions, German and Greek will begin the second year, being also stressed from the first, although, of course, the size of the class may justify a reduction in the normal number of class-periods. Time is an essential element of language culture, and, very generally, too little time is spent on the languages. But, until the character of the University examination scheme changes, improvement can hardly be expected.

Further on, the Elementary Science and the Art and the Commercial courses are dealt with at greater length. It should be noted here, however, that the principles of intermittence and varying stress have been observed as far as practicable in the construction of the course in Elementary Science. Their application in the case of the other Science subjects is of at least as much importance as in the case of any of the subjects already dealt with.

The minimum time for Reading and for Physical Culture is prescribed. These, be it noted, are non-examination subjects. Before the regulation was made, little or no attention was given them, and occasionally still the minimum is reluctantly provided even where the conditions demand a greater apportionment of time. The Regulation in regard to Reading, in particular, seems, it is true, to bear hard upon those schools, the lower forms of which are both numerous and congested. The proper remedy, however, is an obvious one. Moreover, it must be borne in mind that Reading, to some extent, and Physical Culture, to a large extent, are motor exercises, and require special attention in the earlier years. Elementary Science also belongs to the category of examination subjects, and has, accordingly, a minimum prescribed. In the case of Art and of Book-keeping, also non-examination subjects, the work done is submitted for inspection.

In some schools the following provisions are made; they have a direct bearing on the question of organization and deserve to be generally adopted:

(1) Each July or August a prospectus of the school is issued, containing full information for parents and the general public as to the constitution of the staff, the subjects of the courses, the text-books therefor, and the examination requirements, with the general and local regulations in which the locality is interested. Not only does this save correspondence but it educates the public in some matters with which, to the disadvantage of the High School, many are now but poorly acquainted. When the Board is unwise enough to object to the expense, the local papers are usually found ready to lend the school the use of their columns.

(2) A circular letter of questions to parents is given each pupil when he enters the school. The answers contain all the information needed for the school register, with details as to the course of study

selected and a statement of any special considerations that should affect the treatment of the pupil. If, as often happens, the parent has as yet no settled intentions, the answers show, in particular, how long the pupil is likely to remain at school, and transfer to the Principal the right to determine his course in the meantime. After the first year the problem can usually be solved.

(3) Teachers' meetings should be held regularly. On this subject it is unnecessary to enlarge. At such meetings the Principal correlates as far as possible, the work of the different departments; and, in particular, he takes measures to prevent over-pressure of work—an evil which is, unfortunately, too general and for which the staff, not the system, is responsible. From time to time, the Principal also ascertains directly for himself the condition of the subjects in the different forms. One of his most important duties is to hold the balance amongst the different departments and to restrain the inconsiderate zeal of some of his assistants.

Supplementary Reading.

For many years, provision has been made for Supplementary Reading in English Literature, to extend the course in the prescribed texts, which is too narrow for culture and which, moreover, is often injured by examination considerations. The new regulations recognize two kinds of work in English Literature—the *class* work and the *supplementary* work. At present, no special texts are prescribed for the Lower School, except, of course, in the few schools which take up the work for District certificates. In the Lower Schools, accordingly, the class-work is to be selected by the Principal; in the Middle and Upper Schools, it is practically prescribed by the examinations; and the supplementary work throughout the schools is at the discretion of the Principal. If the selections have been properly made, the class literature will be of a more difficult character than the supplementary literature; for, as a whole, the former is to be studied under the immediate care of the teacher. The supplementary literature, on the other hand, should, also as a whole, be read at home or as seat-work, and should, accordingly, be so graded in the different forms as to maintain the pupil's interest throughout his course.

Attention should be paid to the important notes to the definition and the development of the subject of English Literature on pp. 66, 69, 70, and 71 of the new regulations. Two points in note 2, p. 66, in regard to the Lower School course are especially important:

(1) "In each of the Forms, three or four books (both prose and poetry) should be read each year as Class-work. Part of such books should be read at home or during study periods, and reviewed in class with special reference to the more difficult passages."

Under this clause, the course might consist, for example, of *Ivanhoe* and *The Lady of the Lake* (or *Evangeline*), followed, if practicable, by *The Merchant of Venice*; and in the second year, of *Silas Marner*, and a couple of the *Idylls*, followed, also if practicable, by *Julius Cæsar*.

To some, such a course may appear to be too extensive. It has not, however, proved to be so when a rational plan has been followed. We should be satisfied if the pupil understands the meaning of what he reads. With a sympathetic and cultured teacher, the author may be trusted to do the rest. In the first year, the course would naturally begin with the

prose. It should be taken up wholly in the class until the pupil is in a fair way to acquiring the habit of reading with the understanding. Then, still under the direct guidance of the teacher, part might be read at home or as seat-work, the pupil's difficulties and such others as the teacher thinks deserving of attention being carefully considered in the subsequent class-work. There are not more important exercises, it may be added, in this connection than the systematic oral and written reproduction of what has been studied. In dealing with words, sentences and passages, the pupil is apt to overlook their bearing upon the context. As mental discipline, too, the exercises are of great value.

(2) "It is further recommended that at the beginning of each school year a short list be made out for each Form, under a few heads, of such suitable works as may be obtained in the School, Public or other library, and that each pupil be required to read during the year at least one under each head, in addition to those taken up in class."

Here we have the provision for Supplementary Reading, the course in which might be introduced in the first year, as soon as the pupil has become accustomed to High School methods. Speaking generally, the Supplementary Reading should be home or seat work, the pupil's difficulties being dealt with systematically in class, as in the case of Class literature. Oral and written compositions might be based occasionally upon the Supplementary Reading also; but care should be taken not to make a task out of a course the object of which is the creation of a taste.

The books for the Class literature in the Middle and Upper Schools are purchased by the pupils. They should be purchased by the pupils of the Lower School also; excellent editions are to be had at from 10c. to 25c. each. (See Catalogue of 1902 and the Supplement of 1905). In some localities, the possession of the books is of advantage, not only to the pupils, but to a wider circle of readers.

Reference to the new programme will show that Supplementary Reading is enjoined in Geography, History, and Science, as well as in English Literature. To meet the difficulty of providing a sufficient supply of books, the following plan has been followed in a number of schools, with most satisfactory results. Before each session, the members of the staff, with the catalogues of the Public and other local libraries (including, of course, the High School library) before them, select therefrom a dozen or more suitable books for each Form under each of the following heads, the lists indicating where each book is to be found, and each pupil being required to read, during the ensuing school year, as least one from each list for his Form:

I. Prose Fiction; II. Narrative and Dramatic Poetry; III. Biography and History; IV. Travels and Explorations; V. Popular Science.

Modifications of such a plan may, of course, be desirable. As the pupil's taste develops, essays, etc., may be substituted for prose fiction, and poetry of a subjective character may be added. Good translations of the Ancient and Modern Classics and other works likely to create a a taste for the languages and their literatures, should also have a place, and it should be the duty of each teacher concerned to see that the interests of his department are not neglected. The lists should be printed on slips, or inserted in the annual circular of the school, or, at least, be kept on the Form bulletin board. And further, when com-

mending its list to a Form, the teachers should make such a statement in regard to the general character of each book as will enable the pupil to make an agreeable selection.

When the Public Library is not free, special arrangements may usually be made with its Board to supply the schools ; and, for evident reasons, it would be to the interest of the locality to have at least the Principal appointed one of the members. Occasionally a public-spirited citizen has paid for the Library privileges enjoyed by the High School. In one or two localities already, as is now customary in the United States, the Library Board sends the necessary books in relays to the High School, and keeps its necessities in mind when making its purchases. From time to time, also, sets of half a dozen or so copies of suitable books should be added to the High School library, especially in the larger and wealthier localities, and where the supply from the Public Library is defective ; for it is always better, if at all practicable, to have the books directly under the teacher's control. Under this system of Supplementary Reading, the provisions of Reg. 43 (2), (*g*), may readily be complied with. The pupil should be allowed to select the four works he will read ; and if the tone of the school is what it should be, few precautions will be necessary to enable the Principal to give the necessary certificate to those who are candidates at a departmental examination.

Two other most important matters, here and there, still need attention. Especially in the Lower School, where the memory is plastic and the examination pressure is less in evidence, the pupil should be systematically required to memorize and to recite appreciatively choice selections in prose and poetry. The selections should invariably be well worth storing in the treasure-house of the memory ; but no more than a fair share of the pupil's energies should be expended on this part of the course. Oral reading has, also, for many years, been a prescribed function of the course in English Literature. It is not necessary, be it noted, to have all the text read aloud ; but it *is* necessary that what is read should be well read.

ELEMENTARY SCIENCE.

Many of the objections urged against the Elementary Science course are due to inappreciation of present educational conditions, and a misapprehension of its intended character. The Nature Study of the Public Schools, the Elementary Science of the Lower School, and the Science of the Middle and Upper Schools are, it must be remembered, continuous courses. The Elementary Science course, accordingly, assumes, as it now stands, that the Nature Study course has been carried out ; and, until it is, the former must be of a lower grade than it should be some years hence. It must also be remembered that, even when fully developed, the course will still be an elementary one. Some of the topics demand but a brief treatment ; and the stress upon each of the others should be determined, in each school, by the mental disposition of the pupils, the material available, and the prevailing industries of the district, conjoined with the consideration that the course is a two years' one.

The notes to "Elementary Science," on pp. 67-68 of the Regulations, now quoted, in view of their bearing on what follows, give a concise but comprehensive outline of the general character of the work to be done :

"The objects of the course are to train pupils in correct observation and deduction, to give, in connection with the instruction in Geography, a fair knowledge of the world around them to those who will not remain at school more than a few years, and to lay the foundation for the more detailed study of each subject in the case of those who will continue the work into the higher forms. The spirit of the Nature Study of the Public Schools should be retained, but the teacher should introduce a more systematic treatment of the subject, with such organization of the material as will lead to simple classification and generalization. The course should be correlated with Geography, Drawing, and Composition.

Under each of the subheads in Appendix B, full details are given of the course, which is intended to be at least a two years' one. The order of the topics, however is merely a suggested one. In Botany and Zoology, the extent and the character of the details are left to the principal and the teacher, and should be determined by the accessibility of the material and other local conditions. The courses in these subjects shall be practical throughout. Less attention should be given to the identification of plants than has hitherto been usual, and more to morphology, physiology, and ecology. When desirable, the agricultural applications of the subject should be emphasized. Each pupil should possess a good lens, and be taught how to use it. The compound microscope should be used regularly by the teacher for illustration. Approved methods of collecting and preserving botanical specimens and of keeping live animals suitable for study should be systematically followed. Much of the practical work, especially the observations, will necessarily be done out of doors by the pupils alone, under the direction of the teacher, or by the pupils conducted by the teacher. The courses in Physics and Chemistry shall be as far as possible experimental, and the pupils should be encouraged to work at home and to prepare simple apparatus.

When practicable there should be an Aquarium, and every school should have an Arbortum and a Herbarium. A Museum consisting of specimens illustrative of the courses should also be established. The pupils should be encouraged to provide specimens from the locality.

Floras and Faunas should be provided in the library; also other works of reference, and the pupils should be encouraged to use them as supplementary reading, never as text-books or as substitutes for original work. Drawing and systematic written description should be required throughout the course, and the specimens should be dated and preserved in note books for comparison and inspection, the work being systematically supervised by the teacher. In none of the Science classes shall notes be dictated by the teacher. Every pupil should keep a calendar of the dates of the unfolding of buds, the flowering of plants, and the first appearance of birds, insects, and other animals."

Culture is the great object of both the High and the Public School course. Both method and matter are important; but the method is always the more important. In the High School, however, the matter is more important and the course itself is less elastic, than in the Nature Study of the Public Schools; for the necessities of the future citizen and of the Public School teacher must now be borne in mind. The Chemistry, be it noted, is an unsystematized introduction to the subject, with a minimum of theory; the Biology, a more comprehensive course, is also unsystematized, with, however, provision for an organized view at the close; and the Physics, like the Science of the Middle and Upper Schools, is fairly systematized.

For evident reasons, it is intended that, as a general rule, the time from September to November and from April till the end of June shall be devoted to Biology. The apportionment of time to each of Botany and Zoology, should, on the whole, be about the same; but from week to week it will depend chiefly upon the material available. No time is fixed for Chemistry. Its logical place, however, would be during March, and, if necessary, part of February, at the close of the second year's course in Physics, to which, naturally, the winter months would be devoted. In schools where many pupils leave at the end of the first year, it would be wise to take the Chemistry to suit this condition; for, while the course is an introduction to the Middle School Chemistry, it deals with some common subjects of general interest and importance. In this case the subject should be reviewed at the end of the second year.

It is not intended that the topics of the Elementary Science course should be rigidly exclusive of one another, or be taken up in the exact order in which they appear on the programme. It often happens that facts in regard to more than one topic may be learned from the study of the same object. Questions in Physics and Chemistry often come up in connection with Biology; and, during the courses in Physics and Chemistry, material in Biology is often developed in the laboratory. From time to time also, suitable material, available for various purposes, is brought in by the pupils or gathered during the excursions. Such material should be dealt with at the time; but, when the work is reviewed, it is more systematic, and it will be found more convenient, to do so by topics. In any case, the broad, general principles are to be developed, and the teacher should select and arrange the details accordingly. To the pupil this course may, for some time, appear to be an unorganized one. It should never be so to the teacher.

It should be noted also that the group of subjects, included under Elementary Science, is obligatory only upon the pupil in the general course, and the candidate for a teacher's non-professional certificate. Many Principals, however, advise all the Entrance Class to take the subject for one year at least, as a useful means of culture, and until their future course has been settled.

The following suggestions are the result of inspectorial observations during the past year:

(1). The ordinary physical and chemical laboratories may be made to serve for the four subjects of the Elementary Science course. Where at all practicable, however, it would be well to have a room reserved and specially fitted up for Biology. As has been pointed out above, a Herbarium and Arboretum, and a Museum are also indispensable, and some schools have already made a good beginning. There is no reason, either, why an Aquarium and a Terrarium should not be provided, except, of course, during the winter months, where the laboratory is not suitably heated. All this equipment should be the special charge of the Science Master; but the pupils and the public should contribute to it as occasion may serve. In a few years, indeed, the school may thus become a bureau of information of great value to the district. The school should also communicate, from time to time, with the Geological Survey at Ottawa, the Agricultural Department at Toronto (and Guelph), the Experimental Farm at Ottawa, and the Science Departments of the Universities, both to secure their periodical publications and to consult them when they can supply needed information.

(2). As the definition shows, the Elementary Science is observational and experimental. From the nature of the course, a class text book cannot be used in Biology; and, if the work is properly done, one will be unnecessary in Physics and Chemistry also. Books, however, should be constantly in use by the pupils for reference and for supplementary reading. In view of our experience, the method of the class work in Physics and Chemistry should present no difficulty if the object of the course is kept in view. In Biology, a subject largely new in character, the main feature should be the regular class discussions. In addition, and connected therewith, there should be other exercises suggested by the ingenuity of the teacher; as, for example, simple questions for investigation out of school hours, proposed to the class or to individuals; discussions prompted by the pupils themselves; essays on

various topics with illustrative drawings; collections by individual pupils of classes of plants and animals. A few excursions should be provided for each Fall and Spring during school hours or on Saturdays. To permit of these in school hours, the class periods should be arranged so that the Upper School Science classes may be at work in the laboratory during the teacher's absence. For these excursions, it is indispensable that instructions be given the class before leaving the school as to what special points they are to attend to, what materials or phenomena they are to look for, and what particular locality they are to investigate. Without such system, very little demonstration can be made in the woods and the fields, and what should be one of the most valuable features of the course will become a wasted opportunity. A written report of his work should afterwards be required from each pupil, and the material collected and the observations made should be discussed as part of the subsequent class exercises. Some science masters place a book upon the teacher's desk in each of the class rooms concerned, in which pupils record from day to day any observations they may have made. Although, no doubt, crude at first, these observations are useful and stimulating for class work. Other teachers, again, devote part of Monday's lesson to the discussion of observations made by the pupils during the preceding week. The amount of wood-lore which the pupils of rural schools possess and are able to collect is often surprising.

Next to the class discussions, the most valuable part of the work is the preparation of accurate notes by the pupils. For this a special book, not a mere scribbler, is indispensable.* The first step in the class work is to teach the pupil what to record and how to record it: when he begins he can neither methodize nor discriminate. Until the class are able to put their work down in reasonably good form it should be written in rough note books, and after individual criticism by the teacher should be copied in the regular note books. After a month or so the pupil will probably be competent to omit the intermediate stage in the work of recording; but it will be many months before he can dispense wholly with the teacher's guidance in the work of discriminating. Unnecessary assistance must, however, be carefully avoided, and, in particular, notes must not be dictated by the teacher. The notes will, of course, deal only with the main points; they should be simply an intelligible record, whose main object, apart from the training gained in making them, is to enable the pupil to review his work. It will sometimes happen, of course, that the work in connection with a topic cannot be systematized and recorded until the observations have been completed; but, as a general rule, the record should be made as promptly as possible, whether in the class or at home or at their seats depending upon circumstances.

As a means of expression the value of Drawing can hardly be overestimated. In many respects it is far superior to word description, and it should be employed wherever suitable. The Drawing, however, must invariably be a rigidly accurate reproduction of the object.

(3). The first duty of the teacher of Elementary Science (and of Physical Geography) is to make himself well acquainted with his environment—with the resources, the physical character, and the economic

* At date of writing The Charles Chapman Co., London, Ont., and The Copp, Clark Co., Toronto have supplied such note books. The former supply also loose leaf scribblers, which are intended to save the teacher trouble in handling the first draft.

requirements of the surrounding district. It is not putting the case too strongly to say that, for the Biology in particular, the teacher's environment is his best text book. The better his scholarship, the better will be his teaching; but, if he relies upon mere book knowledge, he will signally fail to accomplish the object of the course. He should be able to tell the pupils where they can get material and to direct and correct their observations, although not with them on the spot.

(4) Before beginning his work, knowing the conditions and the number of lessons at his disposal, the teacher should make a tentative apportionment of so many lessons to each topic, subject, in Biology in particular, to necessary readjustment as his work proceeds. He should himself keep a note-book in which to record, from day to day, the work he has taken up in class. In Biology, of course, the material will vary in different localities, and, from year to year in the same locality; but there will be on the whole a general consistency of development. With such a note-book, the teacher can methodize his work as well as economize his time. As has already been pointed out, the order of the topics is at the discretion of the teacher. It would be well, though, for the inexperienced to follow in a measure the order of the syllabus until they are able to strike out for themselves.

Another matter of prime importance: *Throughout the whole course the teacher must supervise the work in the pupils' note books.* Without such supervision, note taking by juniors is practically worthless. This means slow progress at first, but it is work that will pay in the end.

(5) In Elementary Science, as in the other subjects of the High School course, regular oral and written examinations should be held on the preceding work, to test not only the pupil's knowledge of facts but his power to reason. The promotion examination at the end of the Lower School course should include this department, and the Principal's certificate for Part I. should take into account the Science Master's report of this promotion examination and of the work in the note-books as well as the other class exercises.

(6) In accordance with what has been already said, the text-books the teacher needs most for the course in Elementary Science are those that will help him to become familiar with his environment. The High School Reference list of 1902, with the Supplement just issued, contains a full list of modern works in Science, and the descriptive notes thereto will help the teacher in making a selection for both the pupil and himself. The following will be found suitable as a small library in Elementary Biology for his own use:

For General Biology: Coulter's *Plants;* Atkinson's *Elementary Botany;* Spotton's *Botany, Part I.;* Jordan, Kellogg and Heath's *Animals;* Colton's *Descriptive Zoology;* Thompson's *Study of Animal Life.*

For Agricultural Applications; Percival's *Agricultural Botany;* James's *Public School Agriculture;* Birkett, Stevens and Hill's *Agriculture for Beginners;* Roth's *A First Book in Forestry.* The first of these text books, probably the best "Applied Botany" we have, is a comprehensive treatise; the others will suggest work of an elementary character.

For Class-work: Pepoon, Mitchell and Maxwell's *Studies of Plant Life;* Walter, Whitney and Maxwell's *Studies of Animal Life;* Colton's *Practical Zoology;* Boyer,s *Elementary Biology.* These text books suggest the general character of class work, but the treatment of the subjects is too advanced for the Lower School; no minute dissection should be attempted. Besides valuable discussions and useful information about plants and animals, the following contain practical suggestions in regard to class work, which are nearer our present stage of advancement, in the first year of the course at any rate: Silcox and Stevenson's *Modern Nature Study;* Lochhead's *Outlines of Nature Studies;* Hodge's *Nature Study and Life;* Dearness's *The Nature Study Course.*

For guidance in Practical Work: Muldrew's *Nature Study Collection;* Colton's *Teachers' Manual;* Ganong's *The Teaching Botanist;* Eugene Smith's *The Home Aquarium;* Hemenway's *How to Make School Gardens;* Brown's *The Taxidermist's Manual* ($1.25, Putnam's Sons).

For Identification and Classification: In addition to the preceding works, the teacher must possess or have access to Floras and Faunas, a sufficient supply of which should, at any rate, be in the High School library. The following are suggested, but, of course, a more comprehensive selection may be made from the Reference Catalogues of 1902 and 1905: Doubleday, Page & Co.'s *The Nature Library,* in 10 vols.; Spotton's *Botany, Part II.,* (The Flora); Muldrew's *Sylvan Ontario;* Keeler's *Our Native Trees;* Comstock's *Manual for the Study of Insects;* McIlwraith's *Birds of Ontario;* Chapman's *Color Key to North American Birds;* Merriam's *Birds of the Village and Field;* Everman's *American Food and Game Fishes.**

NOTE.—Ward's Natural Science establishment, 76-104 College Ave., Rochester, U.S., furnishes Colleges and Schools with every kind of Natural History collections except Botanical specimens and Insects. No Canadian house of its character has yet been established. The Chas. Chapman Co., London, Ont., furnishes Botanical, Entomological and miscellaneous supplies for practical work (labels, insect boxes, trays, etc., etc.).

COMMERCIAL COURSE.

Under the old regulations much energy was uselessly expended upon Bookkeeping. Pupils generally were put into Bookkeeping because a comprehensive course in it was supposed to be necessary to all classes of citizens, and sometimes because they were not otherwise engaged when the subject was being taught those intended for business. As a matter of fact, the knowledge of commercial transactions the ordinary pupil needs may be readily acquired in connection with Commercial Arithmetic. A well taught commercial course affords, it is true, good mental discipline; but the pupil who is not intended for business should get his discipline from the subjects that are of immediate importance to him. That system of organization is best which best utilizes the pupil's energies. Under the new regulations the Bookkeeping Course on p. 68 is obligatory for teachers' certificates only, while on pp. 73-74 a special course in commercial work is provided for those who wish it.

The minimum amount prescribed for Part I of the non-professional Junior and District Teachers' certificates is given in the note to the course on p. 68. As the note also points out, the sets prescribed are to be the *first* work done in these sets, *not copies* of preliminary drafts. This means, be it carefully noted, that, before the pupil begins the three prescribed sets, he shall have had ample preliminary training. In accordance with the scheme of organization already advocated, the course in Bookkeeping should be an intensive one of about six months, from, say, January to the end of June of the first year. When, however, as is sometimes the case, there is no outside pressure for commercial work in the first year, the course might with advantage be postponed to the second. Then, owing to previous training and greater maturity, the pupil can accomplish the work with less difficulty and in a shorter time. Moreover, with this organization, no special provision will be needed for those who enter at the second year without having completed the work.

In some of the special courses, heretofore too little attention has been paid to Stenography and too much to Bookkeeping and Business Papers on the one hand; while, on the other, the subjects of general culture have not been stressed enough. General adaptability is an

*For details as to character and prices, see the High School Reference Catalogue of 1902, and the Supplement of 1905.

indispensable adjunct of technical knowledge. The intelligent business man, it is well known, prefers to the so-called business graduate the high-school pupil who has been well trained, and who, in particular, is a good speller and ready reckoner, and can write a good hand and compose a good letter, even if his course in Bookkeeping has not been a very extensive one. Moreover, the number who, on leaving school, are entrusted with the account books of an important business is very small indeed. The difference between the commercial courses of the Business College and those of the High School should be the emphasis the High School places upon a good general education. In schools where the commercial classes are not segregated from the others in the first year, all might take together at least the subjects that are common [see Reg. 39 (4) and (6)]. In this year the subjects of general culture should receive special attention, the stress being afterwards transferred to the subjects of the commercial course. Indeed, in the first year, the Bookkeeping for the Junior Teacher's certificate would be ample even for the commercial section. No school at present has a commercial course of more than two years. In the note at the foot of p. 74 provision is made for one extending over three years. In our cities, at least, it should soon be practicable to have such a course. Two years of High School training is too little for the business man of the future.

ART COURSE.

Heretofore, practically no special equipment or accommodations have been provided for the department of Art, although, obviously, its efficiency depends upon these as much as does the department of Science. In the larger schools a commodious and well-lighted room should now be set apart, furnished with suitable desks and presses, ample blackboards, and water supply and at least one sink. Here, too, the walls should be adorned with good reproductions of the best pictures (See under "School Decoration" below). The influence of artistic surroundings in the Art-room, in particular, cannot be overestimated. When a separate room is not available, one of the ordinary class-rooms should meet the foregoing requirements as far as practicable. In such class-rooms care should be taken when water-color work is to be done to have water in individual cups or glasses, so provided that no time shall be lost either at the end or the beginning of a lesson: an additional ink-well in each desk would meet the case conveniently. A set of drawing models of wood or painted tin should be purchased for the teacher's use, with vases and casts of various artistic objects; and each pupil might himself have a set of type models from which to do his drawing. The sphere, hemisphere, ovoid and spheroid must, of course, be turned from wood, but the rest may be easily made of cardboard or stiff manilla paper. On this subject, as, indeed, on many others, the teacher will find helpful suggestions in Nos. 1 and 2 of the drawing-books authorized for the old course. Blank drawing books should, of course, be used now, the teacher himself supplying the exercises.

When properly carried out, the old course had some practical value besides its educational value as hand and eye training. To these the new course is designed to add some æsthetic culture. We cannot, it is evident, secure complete efficiency at first; this department, in particular, is one of slow growth at best; but we may gradually improve the situation.

As to the order of the subjects: Some teachers prefer to take all the first year in an elementary way, completing the course the second. Others, again, prefer to take the elementary course in part the first year, carrying over the rest to the second year. The plan to adopt will naturally depend upon the time-allowance for the department. From its nature, Drawing should, it is evident, be stressed the first year, seat-work being provided as far and as soon as practicable; and less class-work and more seat-work should be done the second. In the first year the subjects might be taken in the following order: Drawing from "Models" (the term includes all kinds of "objects"); Memory-drawing (under the old regulations known as "object-drawing"); the principles of Freehand Perspective, the subject, however, being taken up as needed with the Model and Memory Drawing and extended a little thereafter; Inventive Illustrative Drawing; Ornamental Design, introducing Practical Geometry and its application to Design. Orthographic and Isometric Projection (merely the elements) might be deferred to the second year, except where Manual Training is taken up; and, in such schools, the Ornamental Design might be taken in the second year. Light and Shade and Color will, of course, be used whenever applicable to the subjects of the department of Art.

For economy, as well as for purely educational reasons, it is most important that the principle of correlation, which is a leading feature of the new programme, should be observed throughout the Art course. The most effective work will, accordingly, be done if the Science-master teaches Drawing also; or being himself proficient in the art (as every Science-master should be) works in close harmony with the teacher of Drawing. This principle applies, it is manifest, with at least equal force, to the Practical Geometry of the course in Designing and the Introductory Geometry of the new Mathematical course.

Although color work has been prescribed for the Public Schools since last September, it will evidently be some years before even a majority can do satisfactory work with this vehicle. In most localities, indeed, the Public School work even with pencil has been unsatisfactory. It would be well, therefore, to devote as many as may be needed of the early lessons to practice with rectangular and circular models in light and shade. The pupil may thus be set on the way to acquiring the habit of accurate drawing—a habit of the utmost importance and one which he is less likely to acquire if he begins with irregular objects. He should then be carefully taught the use of brush and color. Thereafter, in the Spring and Fall, he can use his pen, pencil, and brush in Botany and Zoology as well as in the ordinary fields of Art. In Winter the same plan should be followed with Physics and Chemistry.

The preceding remarks deal, of course, with the Drawing prescribed on p. 68 of the Regulations—the course which is obligatory only for a teachers' non-professional certificate and for pupils in the general course, but which, on account of its culture value, deserves, for a year at least, the same consideration in the organization as has been recommended above for the Elementary Science. For some years, the special Drawing course on p. 80 can be taken in only a few of the larger Collegiate Institutes, and in most of such schools only when competent teachers can be procured. The attention of the teacher of Drawing is accordingly drawn to the course for Art Specialists. Circular No. 2, which defines it, contains a list of works of reference, and others will be found in the

Reference Catalogue of 1902 and in the Supplement just issued. For the convenience of the teacher in the ordinary course, the names of the works which will be found most serviceable are given here:

For Model Drawing: *Light and Shade*, Cross, $1.00, Ginn & Co., Boston; *Color Study*, 60c., the same author and publisher.

For Memory Drawing, Freehand Perspective, and Inventive Illustrative Drawing: *Text books of Art Education*, Prang; *New Drawing Course*, Vaughan, in four parts, 2/6 each, Nelson & Son, London, Eng.

For Ornamental Design: *Color Study*, Cross; *Design and Making of Patterns*, Hatton, 5/, Chapman & Hall, London, Eng.; *Science and Art Drawing* (complete Geometrical course), Spanton, 10/, Macmillan Co.; *The Bases of Design* and *Line and Form*, Walter Crane, 6/ each, Geo. Bell & Sons.

For Orthographic Projection: *Mechanical Drawing*, Cross, Ginn & Co., Boston. *Practical Plane and Solid Geometry*, Rawle, 1/6. Simpkin, Marshall & Co., London, Eng. *Science and Art Drawing*, Spanton.

For Isometric Projection: *Science and Art Drawing*, Spanton.

SCHOOL LIBRARIES.

No part of the school equipment is more important than the Library. There is no field of human enterprise in which the man who uses a library has not an advantage over the one who does not, and the school is the place where he should acquire the habit. Besides, the use of the High School library is the indispensable concomitant of the independent work which the new regulations enjoin. In this connection, two matters are of prime importance—the character and the situation of the reference books. Occasionally, some of the books are at present better adapted to the use of the adult, and the library is inconveniently situated. In the selection of the books the necessities of the junior pupil should be borne in mind as well as those of the senior; and the books themselves should always be readily accessible, and need not all be kept in the same room. The general reference books might be kept in a special room or in the Principal's room, of which the senior pupils should have the freedom during their study periods. Sometimes, however, the reference books most in use are, with advantage, kept on reading stands in the main hall, But the special reference library of each department would be more serviceable if in the class-room where it is most in demand. Manifestly, when a reference book is needed, it should be close at hand. Here it is well to emphasize the fact that the Education Department has just issued a Supplement to the Reference catalogue of 1902. No book has found a place in either catalogue the value of which has not been attested by competent authorities. Teachers may, therefore, make their selection from either with confidence in its reliability.

TEXT-BOOKS.

Since the issue of the list of 1904 some additional High School text-books have been authorized. Two in particular deserve special consideration: Baker's *Theoretical Geometry for Schools* and *The Principles and Practice of Reading*. The former has been prepared for the use of the forms that will go up for the University Matriculation and the Teachers' non-professional examinations of 1907; for the new courses in Geometry come into full operation in both the Middle and the Upper Schools after the examinations of 1906. Many of the selections in *The Principles and Practice of Reading* are suitable for the Literature class and may be so used also; but the book has been prepared especially for the classes in Oral Reading, and experience has shown that the

Reading lesson loses much of its freshness if the selections have already been used for another purpose. Oral Reading is subsidiary to Literature teaching, and the meaning of the passage is the first and an indispensable step in the Reading lesson ; but the main object of the Literature lesson is the cultivation of taste, while that of the Reading lesson is the effective rendering of the author's meaning. These objects are best secured in the earlier stages, at any rate, when the main object in each case is kept steadily in view. We should have correlation without confusion. The plan of *The Principles and Practice of Reading* is an excellent one, and, if properly used, the book will do much to lighten the teacher's labour and make his work more effective.

In par. 2, of the authorized text-book list, the following is emphasized :

"Books authorized for use in the Public Schools may be used in the Lower School, and it is recommended that, so far as the Principal may deem it advisable, these books be used for the first year instead of the corresponding High School books."

The recommendation applies to the Public School text-books in Arithmetic, English Grammar, History, and Geography. These books are seldom if ever completed in the Public Schools, and, for economic reasons, should be used the first year in the High Schools. With such additions as the competent teacher will supply, they contain ample material for the period. A change in text-books should be made only after due deliberation and only with a new class ; and the responsibility for advising the School board on the subject devolves on the Principal and not on his assistants, although, of course, the judicious Principal will seek their advice when their interests are affected. Reasonable notice should also be given by the Principal to the local bookseller, of any changes to be made in the text-books used in the High School. It has sometimes happened that desirable changes have been delayed in order to enable him to get rid of stock he has on hand. Sometimes, on the other hand, he has been treated with scant consideration.

TEMPORARY CERTIFICATES.

Reg. 37 (2) reads as follows :

"If, after due advertisement, a High School Board is unable to obtain a legally qualified assistant, a temporary certificate may be granted by the Minister of Education for the current half year to a suitable person on application to the Board."

When the occasion arises, it will be proper for the Principal to point out to his Board that the application of a legally qualified teacher whose non-professional certificate includes the work to be done, is entitled to acceptance, no matter what may be its grade ; and that a temporary certificate must be secured under the regulation, before the person without the legal qualification can be appointed. If a board desires a higher qualification than that available under its first advertisement, it is open to it to advertise again, offering a larger salary. On its failure, after reasonable efforts, to secure the kind of teacher it wants, a printed form will be sent on application to the Deputy Minister, to be filled in with such a statement as will enable the Minister to dispose of the case with due regard to both the local and the general interests. Reg. 35 (4) provides the Department with the means of enforcing its decisions. The scarcity of teachers which, it is alleged, has become acute in some departments, makes Reg. 37 (2) of more importance now than heretofore. The existing stringency, however, is not wholly attributable to this

scarcity. The salary question, it is well known, is the important element in the situation. Competent teachers will remain in their positions and competent teachers will return to the ranks if adequate inducements are offered them.

SCHOOL DECORATION.

In grading the accommodation special importance is now attached to School Decoration (See Reg. 149, (5) and (7). Not only should suitable color schemes be adopted for calsomining or papering the halls and class-rooms, but the walls (including, of course, those of the Assembly room) should be decorated with good pictures; and casts, vases, and other ornaments should be provided. After 1905, Grade I. will, accordingly, not be given the halls or the class-rooms which are bare of ornament or unsuitably colored. In the present condition of most of the schools of the Province, it would be unreasonable to expect paintings (and the chromolithograph is seldom good); but good photographs (especially carbons), etchings and engravings may be bought at moderate prices, and, in the matter of casts and vases, the form is of more importance than the material. Quality is more to be desired than quantity; all the Education Department expects is that each school shall, from year to year, make a reasonable effort to comply with the requirements. Very generally, as is well known, we have good substantial school buildings, and grounds that are by no means discreditable We should now make an organized effort to improve the interiors. To this end the Literary Society and the Graduating Class may be expected to contribute, not to speak of public-spirited citizens. In the words of U. S. Commissioner Harris, our pupils should have "not merely the piety of the heart, but the piety of the intellect that beholds truth, the piety of the will that does good deeds wisely, the piety of the senses that sees the beautiful and realizes it in works of Art."

On p. 63, Section XIV. of the High School Reference Catalogue of 1902, will be found suggestions on the subject of School Decoration. No more useful book has been published on the subject than Burrage & Bailey's *School Sanitation and Decoration* ($1,50. D C. Heath & Co., Boston). Every school library should have a copy and every School Board and Principal should consult it.

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WITHDRAWN

SUGGESTIONS

TO

High School Principals

and their Staffs

In connection with

The New Programme of Studies

TORONTO
Printed and Published by L. K. CAMERON, Printer to the King's Most Excellent Majesty
1904

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PREPARATORY NOTE.

During the past year my correspondence and other inspectorial duties were so burdensome in connection with the introduction of the new programme of studies that, to economize time, I now put in the form of a circular my views on some important questions, most of which are continually coming up for discussion.

JOHN SEATH.

86 Walmer Road,
August 26th, 1905.

SUGGESTIONS TO HIGH SCHOOL PRINCIPALS AND THEIR STAFFS IN CONNECTION WITH THE NEW PROGRAMME OF STUDIES.

ORGANIZATION.

The Departmental Memorandum of August, 1905 (circular 50), draws attention to the requirements of the regulations which were approved in August, 1904. So far as concerns the Junior and the District Teachers' Non-professional Examinations, the regulations as to standard and subjects [Reg. 43 (3), 46 and 48] will come into full force at the examinations of 1906, except, as stated in the circular, in the case of the Geometry for the Junior and of Part I. for each of these examinations. In organizing for the coming year it is, therefore, important for the Principal to realize that the standard has been raised, and that the course is now a fixed one, with a Latin bonus at the Junior. The District, Junior, and Senior Teachers' Examinations are now held, be it noted, solely to ascertain the qualifications of the candidates for a teacher's certificate, although, of course, they may be used as Leaving Examinations also; and it is not unreasonable to anticipate that, in settling the results, the interests of the Public Schools will hereafter be solely considered. It is an open secret that, while the system of Leaving Examinations was in operation, allowances were made which would be unjustifiable under present conditions, and which have injured the cause of popular education in the Province.

The Principal's certificate referred to in Circular 50 is defined by the last sentence of Reg. 50 (3). It should, cover the Lower School courses in Book-keeping, Reading, Physics, and Chemistry, with at least one year's course in each of Art, Botany, and Zoology. As the regulations show, the one year's course in Art is for a whole school year, while the one year's course in each of Botany and Zoology is from September to November, and from April to the end of June. The details of such courses are at the discretion of the Principal, who will no doubt take into consideration the requirements of the future Public School Teacher. In the case of all candidates (including those who failed this summer) whose course has not yet covered all the subjects, the Principal might allow such pupils to go down to one of the Lower School classes when the subjects are being taken up. The same plan may, of course, be followed hereafter in the case of pupils who are fit for the Middle School but who do not possess the required certificate as to competency in the subjects of Part I. The resulting interference with their Middle School time-table is one for which the candidates, not the Principal, are responsible, and the interests of the Middle School must not be allowed to suffer. For very evident reasons, however, such permission should be given only in exceptional cases.

In some quarters the object and the scope of Reg. 39 (9) have not been appreciated. The object, it is understood, was to enable the Principal to resist more easily the pressure that would in many cases be brought to bear upon him to continue in a congested Middle School time-table subjects and stages of subjects which properly belong to the Lower School. As to scope: Under the regulations, the Geography for the intending Public School Teacher, and the Arithmetic and Mensuration and the English Grammar for other classes of candidates may, where needed, be reviewed after March. A teacher's special course is provided in Arithmetic and Mensuration, and in English Grammar (See pp. 79 and 80*), which the Principal may have in the Middle School as often as he deems it expedient. And, further, unless the parent or guardian objects, the Principal may require other pupils to take these special courses. In view, however, of the ample Lower School provision in these subjects, the extremely moderate requirements of University Matriculation, and, usually, the superior claims of other subjects of the course, it would be wise for the Principal to restrict this special teacher's course to the intending teacher.

But these difficulties of organization are small compared with those which have hitherto confronted the Principal—the pressure of the Departmental and the University examinations with its train of evils; the unreasonable demands of department teachers; the inadequacy of staffs, due to congested attendance and the plethora of courses undertaken; and, lastly, the defective preparation of Entrance and Continuation Classes, the former being sometimes due to laxity at the examinations, and the latter, to the inconsiderate ambition of badly equipped and badly manned Public Schools. These are, undoubtedly, real difficulties; but nearly all of them may be gradually overcome by due liberality on the part of School Boards and, more particularly, by firm and judicious management on the part of Principals themselves. Like the wagoner in the fable, the local authorities must put their own shoulders to the wheel. The relation of the different grades of Continuation Classes to the High Schools requires, it is true, a better adjustment. Until this is made, concerted action on the part of all the Principals in a district, with the co-operation of the Public School Inspector, if that can be secured, should do much to simplify the situation.

In the above enumeration of the Principal's difficulties, the so-called "multiplicity of subjects" has not been included. Experience will, undoubtedly necessitate amendments in the regulations, and the progress of the Public and Model Schools will, in time, relieve the High Schools of responsibilities which are now forced upon them. But, having regard to our present obligations, the new programme will compare favorably in its limitations with that of any other progressive country. There is no subject upon it which could be safely omitted from a well rounded modern scheme of secondary education, or upon the omission of which even a majority of competent educationists would agree. It must be remembered also that, like the Public School programme, the High School one was made to last for a period of years, and that, accordingly, in some of its details, it assumes a condition of the general system which it will take time to produce. "The house that is a-building is not as the house that is built." Moreover, the general advancement of education in this Province cannot be kept back in order that weak but ambitious

*Except where otherwise stated, the pages throughout are those of the new regulations.

schools, whether High Schools or Continuation Classes, may attempt courses beyond their capacity. What is at fault is, not so much the number of subjects on the official programme, as the plethora of courses on many local ones, and a generally defective system for organization. For the former, the locality is itself to blame. The latter is the direct result of examination pressure; for, in most schools at present, all the subjects of a Form are taken up concurrently, with an apportionment of time determined mainly by their difficulty and their examination importance. Such a system of organization is both unnatural and unnecessary—unnatural because no one but a prodigy would adopt it in private study, and unnecessary, because, even under present conditions, better results can be secured in a saner way.

Experience in Ontario, not to speak of the general experience of other countries, has shown that better results would be secured if the following principles were kept in view:

(1) Not all the subjects prescribed for a form should be taken up concurrently. Subjects and stages of subjects that involve chiefly the memory or mechanical accuracy cannot, of course, be so readily intermitted as those that involve the reasoning powers; but even here this principle is, in many cases, measurably applicable.

(2) The stress upon a subject should vary according to its character in the different stages of its development and to the pupil's advancement in it and the other subjects of the course.

At present the pupil's energies are dissipated among too many subjects and he is dazed by the monotonous grind at the same subject year in and year out. Arithmetic, for example, he has uninterruptedly for nine or ten years. Concentration of energy and variety of subject matter would be of inestimable advantage to him in the natural and pleasurable development of his powers. The qualifications of the staff and the structural difficulties of the time-table will, no doubt, often prove a bar to the systematic application of these two principles; but, as most teachers take more than one subject of a department, it should not be difficult at least to improve the general situation.

(3) Care should be taken to cultivate greater independence on the part of the pupil. It is no secret that, at present, there is altogether too much teaching, especially in the classes preparing for examination. With a better standard this fact would demonstrate itself every midsummer. The teacher should, accordingly, exercise greater self-restraint; and, in particular, study periods should be provided in all the forms. For such pupils in the larger schools, a separate room might also be provided under charge of one of the staff. It will take time for both staff and pupils to become used to such a system, but the training the pupils will thus receive in self-reliance should amply compensate the staff for the additional trouble it may involve*.

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* Owing to misapprehension of Reg. 89 (9) in a certain High School, neither the Arithmetic nor the English Grammar was taken up this year in the Middle School until after March. Notwithstanding this, all the candidates at the Junior passed, and passed well, in these subjects. The work had been well done in the Lower School, and was stressed after March. The bearing of this statement and of those below (quoted from letters to me) will prove at least suggestive, in view of the present difficulties of organization. The four Principals concerned are both experienced and successful teachers.

(1) "In Form I. I have never had Euclid. In Form II. I have had two periods. So many leave at the end of one or two years, and so many are quite young, and incapable of connected reasoning, that I do not settle down to a serious study of the subject until the beginning of the third year. The classes then thoroughly enjoy the subject, and make very rapid progress. From the examination standpoint the results are satisfactory, the failures falling short of one a year for the past ten years. In Forms III. and IV. I have three 30-minute periods each a week. In Arithmetic I have three periods of 30 minutes a week in each of three Forms I,, II., and III. Much time is spent in grading the work for each year, the first two years being devoted to a thorough course in Commercial Arithmetic and Elementary Mensuration,

The following notes show in a general way how these principles may be applied:

English Grammar should not be stressed at first. It will be enough if, at the end of the first year, the pupil knows well and has perhaps slightly amplified the course now prescribed for the Fourth Form of the Public Schools. (See definition and note on p. 59). On account of its use in connection with the other languages and with English Composition, English Grammar should be taken up as soon as the pupil enters, but it need not be continued throughout the whole first year. After the first year, the subject might be gradually stressed as the pupil's reasoning powers develop, and the serious difficulties should be reserved for the greater maturity of the special Middle School course. (See p. 80 and p. 65, note). English Composition should be stressed throughout the Lower School especially in the first year, being closely connected with the practical side of English Grammar. The subject should also receive systematic attention in the oral and written work of the other classes. (See pp. 66, 68, 69 and 70). English Literature should be stressed throughout the Lower School also during the first year. The pupil usually needs to be trained to read intelligently. This habit the reading courses of the old Public School programme did not inculcate. The fault is remedied in the new one, but it will take time to work the cure. (See pp. 66, 69 and 70).

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with systematic drill in work planned to secure accuracy in the mechanical operations. This latter feature I consider the most important in the two years' work, since annual experiments bring out the fact that not 5 per cent. of the Entrance Class can work ordinary examples in the four simple rules either rapidly or accurately. Taking one year with another, perhaps 5 per cent. of the candidates, chiefly girls, fail in Arithmetic.

"In Algebra I have one 30-minute lesson a week in Form I., three in Form II., and four each in Forms III. and IV. This, I think, is sufficient, except possibly with Form IV. There are practically no failures in Form III. Algebra; but perhaps 10 per cent. fail in the Senior Algebra (I do not mean 10 per cent. of those recommended, but 10 per cent. of all who write).

"I feel quite satisfied that with students of High School ages much time is lost by treating a part of a subject exhaustively, and then giving it little further attention. Frequent reviews, with gradually increasing emphasis on the difficulties, leave the Students encouraged, hopeful, aggressive, and prepared.

"I do not intend to change the number of periods in Mathematics in the Lower School.

"I may add that in Junior Forms, corresponding to Lower School Classes, I exact very little home work. I have an understanding with these classes that, if they enter into the regular class work with the same spirit, earnestness, and vim as they would on a base-ball field or a tennis-court, the home-work exacted will be merely nominal. Last year with the Form just below the Junior Teachers and Junior Matric. I tried this throughout the year, and secured the best results I ever had. In Algebra we covered the work to the end of quadratics; in Euclid, Books I. and II. with easy deductions; and in Arithmetic the full course outlined for Junior Teachers; and I think the average of the class for home-work for the three subjects combined did not exceed half an hour daily. Of course, in Junior Teachers' work much more time is necessary."

(2) "During the past two years I took Middle School Geometry five spaces per week (35 minutes) for the first five months of each year; then Arithmetic in these same five spaces on the time-table for the next four months; and in the last month I reviewed both Arithmetic and Geometry. I feel confident that the success of the class has been greater by taking these subjects intermittingly than concurrently.

"Our time-table (1904–1905) was constructed with five spaces (33 minutes) in the forenoon. After three months I cancelled all the subjects in the first space on the time-table, and divided the forenoon equally amongst the remaining four spaces, and continued this for one week. The following week I cancelled all the subjects in the second place on the time-table, and divided the forenoon equally among the remaining four spaces. Then I cancelled the subjects in the third, fourth, and fifth spaces in the same way, and began again with the first. This increased the morning spaces from 33 minutes each to 45, 40, 40, and 40 minutes, at the small cost of giving some subjects a week's rest. About April 1st I resumed the 33 minute spaces, because the work had all been covered, and the shorter spaces served as well for review."

(3) "Our General School is organized into five Forms, with sub-divisions, the Fourth Form containing the candidates for the Junior. For two or three years we have tried the plan of intermitting for a time some of the subjects. We take History during the first year, and then drop it until the Fourth Form is reached. Drawing is taken every day the first year, and afterwards only advanced work for those needing it. Geography is taken in the second year only, and every day. Geometry is begun in the second year, after the Geometrical Drawing of the first year. Book-keeping and Commercial Transactions is taken in the second year only. No formal Literature is taken the first year; Supplementary Reading is emphasized. German is begun in the Third Form. We have no Greek.

"We made these arrangements to try to relieve the pressure and consequent dispersions resulting from the multiplicity of subjects in each year, and we would not voluntarily go back to the usual arrangement of all the subjects all the years. Two hundred lessons in a subject in one year is much better than the same number of lessons spread over two or three years.

"I should like to carry our plan of intensive study with intermissions further still, and I hope to be able to overcome the difficulties in the way.

"With us, Continuation Pupils coming in without proper preparation must go back to their proper level in the unprepared subjects."

History is largely a memory subject, at first. The essential facts, therefore, should be acquired when the memory is plastic. Even in the Lower School, however, it will serve a good purpose to vary the stress, and even to intermit the subject. But History lends itself better to the latter mode of treatment in the later years when the pupil is able to appreciate the logical sequence of events and to work with greater independence. In the Upper School, indeed, the teacher's guidance is needed more than direct teaching; for, there is hardly any other subject in which, at this stage, the pupil can do more for himself (See pp. 66, 69 and 71). The distinguishing feature of the High School course in Geography should be the prominence given to its Physical side. Accordingly, the work for the first year should consist of an elementary course in the Commercial and Astronomical subjects, without burdensome details, and a mere introduction to the more difficult subject of Physical Geography. If taken throughout the whole year, this course should not consume more than a couple of periods a week, and should stress the Commercial and Astronomical parts more than the Physical. The second year's work, however, should be a stressed one in Physical Geography, introducing the present authorized High School text-book and reserving the more difficult portions to be taken up with the review after March in the Middle School. (See pp. 67, 81 and 82.)

As to Mathematics: Reference to pp. 66, 79 and 80 will show that the prescribed development of the course in Arithmetic is different from that in vogue under the old regulations. The change has been made, not only to meet the necessities of pupils in the general course, but to improve the department of Mathematics itself by securing due economy of effort. All classes of pupils now take together the Lower School Arithmetic, in which "the processes and problems in the commercial work are such as find direct application in ordinary business life, in which accuracy, rapidity, and neatness of work are aimed at, and in which proofs of the more difficult formulæ in Mensuration are not required." (See p. 66.) The serious difficulties of the subject need not be taken up with the pupil in the general course at any stage. Provision is made for their consideration in the special teacher's course in the Middle School. The great defect of the teaching in both English Grammar and Arithmetic has, in many cases, been the unreasonable difficulties of the work of the earlier years—difficulties which can be overcome with far less effort at a later stage. Moreover, it must be borne in mind that our programme consists of courses of study, not of a collection of isolated subjects; and that the power a pupil gains in the study of each is available throughout, especially in the study of those that are correlated with it. From the conditions, Arithmetic should be stressed for the greater part of the first year, Algebra being then taken for about a couple of periods a week and being thereafter the subject that is stressed. If, indeed, the Middle School course is a two years' one, as it is in some schools, both the Arithmetic and the English Grammar of the special course may be intermitted for the whole or the greater part of the first of these years. Hitherto, under the old programme, Geometry has often been omitted until the second year or taken up after Christmas or Easter of the first. Owing to its character, the Practical Geometry might be taken up hereafter towards the end of the first year (See "Art Course" further on), and the rest of the course should certainly not be stressed until the Middle School.

The languages involve so much memory work of an unfamiliar character that they must be stressed throughout, although, naturally, there will be varying stress and even intermittence in the components of the course in a particular language. As we are now situated, only Latin should be taken up at first, a short lesson a day being provided, if at all practicable Oral work in French for a couple of periods a week should be provided as soon as the pupil has mastered the initial difficulties of Latin, the subject being stressed the second year and thereafter. At present, in the smaller schools, French is often not taken up until the second year, but it is then stressed from the first. Under ordinary conditions, German and Greek will begin the second year, being also stressed from the first, although, of course, the size of the class may justify a reduction in the normal number of class-periods. Time is an essential element of language culture, and, very generally, too little time is spent on the languages. But, until the character of the University examination scheme changes, improvement can hardly be expected.

Further on, the Elementary Science and the Art and the Commercial courses are dealt with at greater length. It should be noted here, however, that the principles of intermittence and varying stress have been observed as far as practicable in the construction of the course in Elementary Science. Their application in the case of the other Science subjects is of at least as much importance as in the case of any of the subjects already dealt with.

The minimum time for Reading and for Physical Culture is prescribed. These, be it noted, are non-examination subjects. Before the regulation was made, little or no attention was given them, and occasionally still the minimum is reluctantly provided even where the conditions demand a greater apportionment of time. The Regulation in regard to Reading, in particular, seems, it is true, to bear hard upon those schools, the lower forms of which are both numerous and congested. The proper remedy, however, is an obvious one. Moreover, it must be borne in mind that Reading, to some extent, and Physical Culture, to a large extent, are motor exercises, and require special attention in the earlier years. Elementary Science also belongs to the category of examination subjects, and has, accordingly, a minimum prescribed. In the case of Art and of Book-keeping, also non-examination subjects, the work done is submitted for inspection.

In some schools the following provisions are made; they have a direct bearing on the question of organization and deserve to be generally adopted:

(1) Each July or August a prospectus of the school is issued, containing full information for parents and the general public as to the constitution of the staff, the subjects of the courses, the text-books therefor, and the examination requirements, with the general and local regulations in which the locality is interested. Not only does this save correspondence but it educates the public in some matters with which, to the disadvantage of the High School, many are now but poorly acquainted. When the Board is unwise enough to object to the expense, the local papers are usually found ready to lend the school the use of their columns.

(2) A circular letter of questions to parents is given each pupil when he enters the school. The answers contain all the information needed for the school register, with details as to the course of study

selected and a statement of any special considerations that should affect the treatment of the pupil. If, as often happens, the parent has as yet no settled intentions, the answers show, in particular, how long the pupil is likely to remain at school, and transfer to the Principal the right to determine his course in the meantime. After the first year the problem can usually be solved.

(3) Teachers' meetings should be held regularly. On this subject it is unnecessary to enlarge. At such meetings the Principal correlates as far as possible, the work of the different departments; and, in particular, he takes measures to prevent over-pressure of work—an evil which is, unfortunately, too general and for which the staff, not the system, is responsible. From time to time, the Principal also ascertains directly for himself the condition of the subjects in the different forms. One of his most important duties is to hold the balance amongst the different departments and to restrain the inconsiderate zeal of some of his assistants.

Supplementary Reading.

For many years, provision has been made for Supplementary Reading in English Literature, to extend the course in the prescribed texts, which is too narrow for culture and which, moreover, is often injured by examination considerations. The new regulations recognize two kinds of work in English Literature—the *class* work and the *supplementary* work. At present, no special texts are prescribed for the Lower School, except, of course, in the few schools which take up the work for District certificates. In the Lower Schools, accordingly, the class-work is to be selected by the Principal; in the Middle and Upper Schools, it is practically prescribed by the examinations; and the supplementary work throughout the schools is at the discretion of the Principal. If the selections have been properly made, the class literature will be of a more difficult character than the supplementary literature; for, as a whole, the former is to be studied under the immediate care of the teacher. The supplementary literature, on the other hand, should, also as a whole, be read at home or as seat-work, and should, accordingly, be so graded in the different forms as to maintain the pupil's interest throughout his course.

Attention should be paid to the important notes to the definition and the development of the subject of English Literature on pp. 66, 69, 70, and 71 of the new regulations. Two points in note 2, p. 66, in regard to the Lower School course are especially important:

(1) "In each of the Forms, three or four books (both prose and poetry) should be read each year as Class-work. Part of such books should be read at home or during study periods, and reviewed in class with special reference to the more difficult passages."

Under this clause, the course might consist, for example, of *Ivanhoe* and *The Lady of the Lake* (or *Evangeline*), followed, if practicable, by *The Merchant of Venice*; and in the second year, of *Silas Marner*, and a couple of the *Idylls*, followed, also if practicable, by *Julius Cæsar*.

To some, such a course may appear to be too extensive. It has not, however, proved to be so when a rational plan has been followed. We should be satisfied if the pupil understands the meaning of what he reads. With a sympathetic and cultured teacher, the author may be trusted to do the rest. In the first year, the course would naturally begin with the

prose. It should be taken up wholly in the class until the pupil is in a fair way to acquiring the habit of reading with the understanding. Then, still under the direct guidance of the teacher, part might be read at home or as seat-work, the pupil's difficulties and such others as the teacher thinks deserving of attention being carefully considered in the subsequent class-work. There are not more important exercises, it may be added, in this connection than the systematic oral and written reproduction of what has been studied. In dealing with words, sentences and passages, the pupil is apt to overlook their bearing upon the context. As mental discipline, too, the exercises are of great value.

(2). "It is further recommended that at the beginning of each school year a short list be made out for each Form, under a few heads, of such suitable works as may be obtained in the School, Public or other library, and that each pupil be required to read during the year at least one under each head, in addition to those taken up in class."

Here we have the provision for Supplementary Reading, the course in which might be introduced in the first year, as soon as the pupil has become accustomed to High School methods. Speaking generally, the Supplementary Reading should be home or seat work, the pupil's difficulties being dealt with systematically in class, as in the case of Class literature. Oral and written compositions might be based occasionally upon the Supplementary Reading also; but care should be taken not to make a task out of a course the object of which is the creation of a taste.

The books for the Class literature in the Middle and Upper Schools are purchased by the pupils. They should be purchased by the pupils of the Lower School also; excellent editions are to be had at from 10c. to 25c. each. (See Catalogue of 1902 and the Supplement of 1905). In some localities, the possession of the books is of advantage, not only to the pupils, but to a wider circle of readers.

Reference to the new programme will show that Supplementary Reading is enjoined in Geography, History, and Science, as well as in English Literature. To meet the difficulty of providing a sufficient supply of books, the following plan has been followed in a number of schools, with most satisfactory results. Before each session, the members of the staff, with the catalogues of the Public and other local libraries (including, of course, the High School library) before them, select therefrom a dozen or more suitable books for each Form under each of the following heads, the lists indicating where each book is to be found, and each pupil being required to read, during the ensuing school year, as least one from each list for his Form:

I. Prose Fiction; II. Narrative and Dramatic Poetry; III. Biography and History; IV. Travels and Explorations; V. Popular Science.

Modifications of such a plan may, of course, be desirable. As the pupil's taste develops, essays, etc., may be substituted for prose fiction, and poetry of a subjective character may be added. Good translations of the Ancient and Modern Classics and other works likely to create a a taste for the languages and their literatures, should also have a place, and it should be the duty of each teacher concerned to see that the interests of his department are not neglected. The lists should be printed on slips, or inserted in the annual circular of the school, or, at least, be kept on the Form bulletin board. And further, when com-

mending its list to a Form, the teachers should make such a statement in regard to the general character of each book as will enable the pupil to make an agreeable selection.

When the Public Library is not free, special arrangements may usually be made with its Board to supply the schools ; and, for evident reasons, it would be to the interest of the locality to have at least the Principal appointed one of the members. Occasionally a public-spirited citizen has paid for the Library privileges enjoyed by the High School. In one or two localities already, as is now customary in the United States, the Library Board sends the necessary books in relays to the High School, and keeps its necessities in mind when making its purchases. From time to time, also, sets of half a dozen or so copies of suitable books should be added to the High School library, especially in the larger and wealthier localities, and where the supply from the Public Library is defective ; for it is always better, if at all practicable, to have the books directly under the teacher's control. Under this system of Supplementary Reading, the provisions of Reg. 43 (2), (*g*), may readily be complied with. The pupil should be allowed to select the four works he will read ; and if the tone of the school is what it should be, few precautions will be necessary to enable the Principal to give the necessary certificate to those who are candidates at a departmental examination.

Two other most important matters, here and there, still need attention. Especially in the Lower School, where the memory is plastic and the examination pressure is less in evidence, the pupil should be systematically required to memorize and to recite appreciatively choice selections in prose and poetry. The selections should invariably be well worth storing in the treasure-house of the memory ; but no more than a fair share of the pupil's energies should be expended on this part of the course. Oral reading has, also, for many years, been a prescribed function of the course in English Literature. It is not necessary, be it noted, to have all the text read aloud ; but it *is* necessary that what is read should be well read.

ELEMENTARY SCIENCE.

Many of the objections urged against the Elementary Science course are due to inappreciation of present educational conditions, and a misapprehension of its intended character. The Nature Study of the Public Schools, the Elementary Science of the Lower School, and the Science of the Middle and Upper Schools are, it must be remembered, continuous courses. The Elementary Science course, accordingly, assumes, as it now stands, that the Nature Study course has been carried out ; and, until it is, the former must be of a lower grade than it should be some years hence. It must also be remembered that, even when fully developed, the course will still be an elementary one. Some of the topics demand but a brief treatment ; and the stress upon each of the others should be determined, in each school, by the mental disposition of the pupils, the material available, and the prevailing industries of the district, conjoined with the consideration that the course is a two years' one.

The notes to "Elementary Science," on pp. 67-68 of the Regulations, now quoted, in view of their bearing on what follows, give a concise but comprehensive outline of the general character of the work to be done :

"The objects of the course are to train pupils in correct observation and deduction, to give, in connection with the instruction in Geography, a fair knowledge of the world around them to those who will not remain at school more than a few years, and to lay the foundation for the more detailed study of each subject in the case of those who will continue the work into the higher forms. The spirit of the Nature Study of the Public Schools should be retained, but the teacher should introduce a more systematic treatment of the subject, with such organization of the material as will lead to simple classification and generalization. The course should be correlated with Geography, Drawing, and Composition.

Under each of the subheads in Appendix B, full details are given of the course, which is intended to be at least a two years' one. The order of the topics, however is merely a suggested one. In Botany and Zoology, the extent and the character of the details are left to the principal and the teacher, and should be determined by the accessibility of the material and other local conditions. The courses in these subjects shall be practical throughout. Less attention should be given to the identification of plants than has hitherto been usual, and more to morphology, physiology, and ecology. When desirable, the agricultural applications of the subject should be emphasized. Each pupil should possess a good lens, and be taught how to use it. The compound microscope should be used regularly by the teacher for illustration. Approved methods of collecting and preserving botanical specimens and of keeping live animals suitable for study should be systematically followed. Much of the practical work, especially the observations, will necessarily be done out of doors by the pupils alone, under the direction of the teacher, or by the pupils conducted by the teacher. The courses in Physics and Chemistry shall be as far as possible experimental, and the pupils should be encouraged to work at home and to prepare simple apparatus.

When practicable there should be an Aquarium, and every school should have an Arbortum and a Herbarium. A Museum consisting of specimens illustrative of the courses should also be established. The pupils should be encouraged to provide specimens from the locality.

Floras and Faunas should be provided in the library; also other works of reference, and the pupils should be encouraged to use them as supplementary reading, never as text-books or as substitutes for original work. Drawing and systematic written description should be required throughout the course, and the specimens should be dated and preserved in note books for comparison and inspection, the work being systematically supervised by the teacher. In none of the Science classes shall notes be dictated by the teacher. Every pupil should keep a calendar of the dates of the unfolding of buds, the flowering of plants, and the first appearance of birds, insects, and other animals."

Culture is the great object of both the High and the Public School course. Both method and matter are important; but the method is always the more important. In the High School, however, the matter is more important and the course itself is less elastic, than in the Nature Study of the Public Schools; for the necessities of the future citizen and of the Public School teacher must now be borne in mind. The Chemistry, be it noted, is an unsystematized introduction to the subject, with a minimum of theory; the Biology, a more comprehensive course, is also unsystematized, with, however, provision for an organized view at the close; and the Physics, like the Science of the Middle and Upper Schools, is fairly systematized.

For evident reasons, it is intended that, as a general rule, the time from September to November and from April till the end of June shall be devoted to Biology. The apportionment of time to each of Botany and Zoology, should, on the whole, be about the same; but from week to week it will depend chiefly upon the material available. No time is fixed for Chemistry. Its logical place, however, would be during March, and, if necessary, part of February, at the close of the second year's course in Physics, to which, naturally, the winter months would be devoted. In schools where many pupils leave at the end of the first year, it would be wise to take the Chemistry to suit this condition; for, while the course is an introduction to the Middle School Chemistry, it deals with some common subjects of general interest and importance. In this case the subject should be reviewed at the end of the second year.

It is not intended that the topics of the Elementary Science course should be rigidly exclusive of one another, or be taken up in the exact order in which they appear on the programme. It often happens that facts in regard to more than one topic may be learned from the study of the same object. Questions in Physics and Chemistry often come up in connection with Biology; and, during the courses in Physics and Chemistry, material in Biology is often developed in the laboratory. From time to time also, suitable material, available for various purposes, is brought in by the pupils or gathered during the excursions. Such material should be dealt with at the time; but, when the work is reviewed, it is more systematic, and it will be found more convenient, to do so by topics. In any case, the broad, general principles are to be developed, and the teacher should select and arrange the details accordingly. To the pupil this course may, for some time, appear to be an unorganized one. It should never be so to the teacher.

It should be noted also that the group of subjects, included under Elementary Science, is obligatory only upon the pupil in the general course, and the candidate for a teacher's non-professional certificate. Many Principals, however, advise all the Entrance Class to take the subject for one year at least, as a useful means of culture, and until their future course has been settled.

The following suggestions are the result of inspectorial observations during the past year:

(1). The ordinary physical and chemical laboratories may be made to serve for the four subjects of the Elementary Science course. Where at all practicable, however, it would be well to have a room reserved and specially fitted up for Biology. As has been pointed out above, a Herbarium and Arboretum, and a Museum are also indispensable, and some schools have already made a good beginning. There is no reason, either, why an Aquarium and a Terrarium should not be provided, except, of course, during the winter months, where the laboratory is not suitably heated. All this equipment should be the special charge of the Science Master; but the pupils and the public should contribute to it as occasion may serve. In a few years, indeed, the school may thus become a bureau of information of great value to the district. The school should also communicate, from time to time, with the Geological Survey at Ottawa, the Agricultural Department at Toronto (and Guelph), the Experimental Farm at Ottawa, and the Science Departments of the Universities, both to secure their periodical publications and to consult them when they can supply needed information.

(2). As the definition shows, the Elementary Science is observational and experimental. From the nature of the course, a class text book cannot be used in Biology; and, if the work is properly done, one will be unnecessary in Physics and Chemistry also. Books, however, should be constantly in use by the pupils for reference and for supplementary reading. In view of our experience, the method of the class work in Physics and Chemistry should present no difficulty if the object of the course is kept in view. In Biology, a subject largely new in character, the main feature should be the regular class discussions. In addition, and connected therewith, there should be other exercises suggested by the ingenuity of the teacher; as, for example, simple questions for investigation out of school hours, proposed to the class or to individuals; discussions prompted by the pupils themselves; essays on

various topics with illustrative drawings; collections by individual pupils of classes of plants and animals. A few excursions should be provided for each Fall and Spring during school hours or on Saturdays. To permit of these in school hours, the class periods should be arranged so that the Upper School Science classes may be at work in the laboratory during the teacher's absence. For these excursions, it is indispensable that instructions be given the class before leaving the school as to what special points they are to attend to, what materials or phenomena they are to look for, and what particular locality they are to investigate. Without such system, very little demonstration can be made in the woods and the fields, and what should be one of the most valuable features of the course will become a wasted opportunity. A written report of his work should afterwards be required from each pupil, and the material collected and the observations made should be discussed as part of the subsequent class exercises. Some science masters place a book upon the teacher's desk in each of the class rooms concerned, in which pupils record from day to day any observations they may have made. Although, no doubt, crude at first, these observations are useful and stimulating for class work. Other teachers, again, devote part of Monday's lesson to the discussion of observations made by the pupils during the preceding week. The amount of wood-lore which the pupils of rural schools possess and are able to collect is often surprising.

Next to the class discussions, the most valuable part of the work is the preparation of accurate notes by the pupils. For this a special book, not a mere scribbler, is indispensable.* The first step in the class work is to teach the pupil what to record and how to record it: when he begins he can neither methodize nor discriminate. Until the class are able to put their work down in reasonably good form it should be written in rough note books, and after individual criticism by the teacher should be copied in the regular note books. After a month or so the pupil will probably be competent to omit the intermediate stage in the work of recording; but it will be many months before he can dispense wholly with the teacher's guidance in the work of discriminating. Unnecessary assistance must, however, be carefully avoided, and, in particular, notes must not be dictated by the teacher. The notes will, of course, deal only with the main points; they should be simply an intelligible record, whose main object, apart from the training gained in making them, is to enable the pupil to review his work. It will sometimes happen, of course, that the work in connection with a topic cannot be systematized and recorded until the observations have been completed; but, as a general rule, the record should be made as promptly as possible, whether in the class or at home or at their seats depending upon circumstances.

As a means of expression the value of Drawing can hardly be overestimated. In many respects it is far superior to word description, and it should be employed wherever suitable. The Drawing, however, must invariably be a rigidly accurate reproduction of the object.

(3). The first duty of the teacher of Elementary Science (and of Physical Geography) is to make himself well acquainted with his environment—with the resources, the physical character, and the economic

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* At date of writing The Charles Chapman Co., London, Ont., and The Copp, Clark Co., Toronto have supplied such note books. The former supply also loose leaf scribblers, which are intended to save the teacher trouble in handling the first draft.

requirements of the surrounding district. It is not putting the case too strongly to say that, for the Biology in particular, the teacher's environment is his best text book. The better his scholarship, the better will be his teaching; but, if he relies upon mere book knowledge, he will signally fail to accomplish the object of the course. He should be able to tell the pupils where they can get material and to direct and correct their observations, although not with them on the spot.

(4) Before beginning his work, knowing the conditions and the number of lessons at his disposal, the teacher should make a tentative apportionment of so many lessons to each topic, subject, in Biology in particular, to necessary readjustment as his work proceeds. He should himself keep a note-book in which to record, from day to day, the work he has taken up in class. In Biology, of course, the material will vary in different localities, and, from year to year in the same locality; but there will be on the whole a general consistency of development. With such a note-book, the teacher can methodize his work as well as economize his time. As has already been pointed out, the order of the topics is at the discretion of the teacher. It would be well, though, for the inexperienced to follow in a measure the order of the syllabus until they are able to strike out for themselves.

Another matter of prime importance: *Throughout the whole course the teacher must supervise the work in the pupils' note books.* Without such supervision, note taking by juniors is practically worthless. This means slow progress at first, but it is work that will pay in the end.

(5) In Elementary Science, as in the other subjects of the High School course, regular oral and written examinations should be held on the preceding work, to test not only the pupil's knowledge of facts but his power to reason. The promotion examination at the end of the Lower School course should include this department, and the Principal's certificate for Part I. should take into account the Science Master's report of this promotion examination and of the work in the note-books as well as the other class exercises.

(6) In accordance with what has been already said, the text-books the teacher needs most for the course in Elementary Science are those that will help him to become familiar with his environment. The High School Reference list of 1902, with the Supplement just issued, contains a full list of modern works in Science, and the descriptive notes thereto will help the teacher in making a selection for both the pupil and himself. The following will be found suitable as a small library in Elementary Biology for his own use:

For General Biology: Coulter's *Plants;* Atkinson's *Elementary Botany;* Spotton's *Botany, Part I.;* Jordan, Kellogg and Heath's *Animals;* Colton's *Descriptive Zoology;* Thompson's *Study of Animal Life.*

For Agricultural Applications; Percival's *Agricultural Botany;* James's *Public School Agriculture;* Birkett, Stevens and Hill's *Agriculture for Beginners;* Roth's *A First Book in Forestry.* The first of these text books, probably the best "Applied Botany" we have, is a comprehensive treatise; the others will suggest work of an elementary character.

For Class-work: Pepoon, Mitchell and Maxwell's *Studies of Plant Life;* Walter, Whitney and Maxwell's *Studies of Animal Life;* Colton's *Practical Zoology;* Boyer,s *Elementary Biology.* These text books suggest the general character of class work, but the treatment of the subjects is too advanced for the Lower School; no minute dissection should be attempted. Besides valuable discussions and useful information about plants and animals, the following contain practical suggestions in regard to class work, which are nearer our present stage of advancement, in the first year of the course at any rate: Silcox and Stevenson's *Modern Nature Study;* Lochhead's *Outlines of Nature Studies;* Hodge's *Nature Study and Life;* Dearness's *The Nature Study Course.*

For guidance in Practical Work: Muldrew's *Nature Study Collection;* Colton's *Teachers' Manual*; Ganong's *The Teaching Botanist;* Eugene Smith's *The Home Aquarium;* Hemenway's *How to Make School Gardens;* Brown's *The Taxidermist's Manual* ($1.25, Putnam's Sons).

For Identification and Classification: In addition to the preceding works, the teacher must possess or have access to Floras and Faunas, a sufficient supply of which should, at any rate, be in the High School library. The following are suggested, but, of course, a more comprehensive selection may be made from the Reference Catalogues of 1902 and 1905: Doubleday, Page & Co.'s *The Nature Library,* in 10 vols.; Spotton's *Botany, Part II.,* (The Flora); Muldrew's *Sylvan Ontario;* Keeler's *Our Native Trees;* Comstock's *Manual for the Study of Insects;* McIlwraith's *Birds of Ontario;* Chapman's *Color Key to North American Birds;* Merriam's *Birds of the Village and Field;* Everman's *American Food and Game Fishes.**

NOTE.—Ward's Natural Science establishment, 76-104 College Ave., Rochester, U.S., furnishes Colleges and Schools with every kind of Natural History collections except Botanical specimens and Insects. No Canadian house of its character has yet been established. The Chas. Chapman Co., London, Ont., furnishes Botanical, Entomological and miscellaneous supplies for practical work (labels, insect boxes, trays, etc., etc.).

COMMERCIAL COURSE.

Under the old regulations much energy was uselessly expended upon Bookkeeping. Pupils generally were put into Bookkeeping because a comprehensive course in it was supposed to be necessary to all classes of citizens, and sometimes because they were not otherwise engaged when the subject was being taught those intended for business. As a matter of fact, the knowledge of commercial transactions the ordinary pupil needs may be readily acquired in connection with Commercial Arithmetic. A well taught commercial course affords, it is true, good mental discipline; but the pupil who is not intended for business should get his discipline from the subjects that are of immediate importance to him. That system of organization is best which best utilizes the pupil's energies. Under the new regulations the Bookkeeping Course on p. 68 is obligatory for teachers' certificates only, while on pp. 73-74 a special course in commercial work is provided for those who wish it.

The minimum amount prescribed for Part I of the non-professional Junior and District Teachers' certificates is given in the note to the course on p. 68. As the note also points out, the sets prescribed are to be the *first* work done in these sets, *not copies* of preliminary drafts. This means, be it carefully noted, that, before the pupil begins the three prescribed sets, he shall have had ample preliminary training. In accordance with the scheme of organization already advocated, the course in Bookkeeping should be an intensive one of about six months, from, say, January to the end of June of the first year. When, however, as is sometimes the case, there is no outside pressure for commercial work in the first year, the course might with advantage be postponed to the second. Then, owing to previous training and greater maturity, the pupil can accomplish the work with less difficulty and in a shorter time. Moreover, with this organization, no special provision will be needed for those who enter at the second year without having completed the work.

In some of the special courses, heretofore too little attention has been paid to Stenography and too much to Bookkeeping and Business Papers on the one hand; while, on the other, the subjects of general culture have not been stressed enough. General adaptability is an

*For details as to character and prices, see the High School Reference Catalogue of 1902, and the Supplement of 1905.

indispensable adjunct of technical knowledge. The intelligent business man, it is well known, prefers to the so-called business graduate the high-school pupil who has been well trained, and who, in particular, is a good speller and ready reckoner, and can write a good hand and compose a good letter, even if his course in Bookkeeping has not been a very extensive one. Moreover, the number who, on leaving school, are entrusted with the account books of an important business is very small indeed. The difference between the commercial courses of the Business College and those of the High School should be the emphasis the High School places upon a good general education. In schools where the commercial classes are not segregated from the others in the first year, all might take together at least the subjects that are common [see Reg. 39 (4) and (6)]. In this year the subjects of general culture should receive special attention, the stress being afterwards transferred to the subjects of the commercial course. Indeed, in the first year, the Bookkeeping for the Junior Teacher's certificate would be ample even for the commercial section. No school at present has a commercial course of more than two years. In the note at the foot of p. 74 provision is made for one extending over three years. In our cities, at least, it should soon be practicable to have such a course. Two years of High School training is too little for the business man of the future.

ART COURSE.

Heretofore, practically no special equipment or accommodations have been provided for the department of Art, although, obviously, its efficiency depends upon these as much as does the department of Science. In the larger schools a commodious and well-lighted room should now be set apart, furnished with suitable desks and presses, ample blackboards, and water supply and at least one sink. Here, too, the walls should be adorned with good reproductions of the best pictures (See under "School Decoration" below). The influence of artistic surroundings in the Art-room, in particular, cannot be overestimated. When a separate room is not available, one of the ordinary class-rooms should meet the foregoing requirements as far as practicable. In such class-rooms care should be taken when water-color work is to be done to have water in individual cups or glasses, so provided that no time shall be lost either at the end or the beginning of a lesson: an additional ink-well in each desk would meet the case conveniently. A set of drawing models of wood or painted tin should be purchased for the teacher's use, with vases and casts of various artistic objects; and each pupil might himself have a set of type models from which to do his drawing. The sphere, hemisphere, ovoid and spheroid must, of course, be turned from wood, but the rest may be easily made of cardboard or stiff manilla paper. On this subject, as, indeed, on many others, the teacher will find helpful suggestions in Nos. 1 and 2 of the drawing-books authorized for the old course. Blank drawing books should, of course, be used now, the teacher himself supplying the exercises.

When properly carried out, the old course had some practical value besides its educational value as hand and eye training. To these the new course is designed to add some æsthetic culture. We cannot, it is evident, secure complete efficiency at first; this department, in particular, is one of slow growth at best; but we may gradually improve the situation.

As to the order of the subjects: Some teachers prefer to take all the first year in an elementary way, completing the course the second. Others, again, prefer to take the elementary course in part the first year, carrying over the rest to the second year. The plan to adopt will naturally depend upon the time-allowance for the department. From its nature, Drawing should, it is evident, be stressed the first year, seat-work being provided as far and as soon as practicable; and less class-work and more seat-work should be done the second. In the first year the subjects might be taken in the following order: Drawing from "Models" (the term includes all kinds of "objects"); Memory-drawing (under the old regulations known as "object-drawing"); the principles of Freehand Perspective, the subject, however, being taken up as needed with the Model and Memory Drawing and extended a little thereafter; Inventive Illustrative Drawing; Ornamental Design, introducing Practical Geometry and its application to Design. Orthographic and Isometric Projection (merely the elements) might be deferred to the second year, except where Manual Training is taken up; and, in such schools, the Ornamental Design might be taken in the second year. Light and Shade and Color will, of course, be used whenever applicable to the subjects of the department of Art.

For economy, as well as for purely educational reasons, it is most important that the principle of correlation, which is a leading feature of the new programme, should be observed throughout the Art course. The most effective work will, accordingly, be done if the Science-master teaches Drawing also; or being himself proficient in the art (as every Science-master should be) works in close harmony with the teacher of Drawing. This principle applies, it is manifest, with at least equal force, to the Practical Geometry of the course in Designing and the Introductory Geometry of the new Mathematical course.

Although color work has been prescribed for the Public Schools since last September, it will evidently be some years before even a majority can do satisfactory work with this vehicle. In most localities, indeed, the Public School work even with pencil has been unsatisfactory. It would be well, therefore, to devote as many as may be needed of the early lessons to practice with rectangular and circular models in light and shade. The pupil may thus be set on the way to acquiring the habit of accurate drawing—a habit of the utmost importance and one which he is less likely to acquire if he begins with irregular objects. He should then be carefully taught the use of brush and color. Thereafter, in the Spring and Fall, he can use his pen, pencil, and brush in Botany and Zoology as well as in the ordinary fields of Art. In Winter the same plan should be followed with Physics and Chemistry.

The preceding remarks deal, of course, with the Drawing prescribed on p. 68 of the Regulations—the course which is obligatory only for a teachers' non-professional certificate and for pupils in the general course, but which, on account of its culture value, deserves, for a year at least, the same consideration in the organization as has been recommended above for the Elementary Science. For some years, the special Drawing course on p. 80 can be taken in only a few of the larger Collegiate Institutes, and in most of such schools only when competent teachers can be procured. The attention of the teacher of Drawing is accordingly drawn to the course for Art Specialists. Circular No. 2, which defines it, contains a list of works of reference, and others will be found in the

Reference Catalogue of 1902 and in the Supplement just issued. For the convenience of the teacher in the ordinary course, the names of the works which will be found most serviceable are given here:

For Model Drawing: *Light and Shade*, Cross, $1.00, Ginn & Co., Boston; *Color Study*, 60c., the same author and publisher.

For Memory Drawing, Freehand Perspective, and Inventive Illustrative Drawing: *Text books of Art Education*, Prang; *New Drawing Course*, Vaughan, in four parts, 2/6 each, Nelson & Son, London, Eng.

For Ornamental Design: *Color Study*, Cross; *Design and Making of Patterns*, Hatton, 5/, Chapman & Hall, London, Eng.; *Science and Art Drawing* (complete Geometrical course), Spanton, 10/, Macmillan Co.; *The Bases of Design* and *Line and Form*, Walter Crane, 6/ each, Geo. Bell & Sons.

For Orthographic Projection: *Mechanical Drawing*, Cross, Ginn & Co., Boston. *Practical Plane and Solid Geometry*, Rawle, 1/6. Simpkin, Marshall & Co., London, Eng. *Science and Art Drawing*, Spanton.

For Isometric Projection: *Science and Art Drawing*, Spanton.

SCHOOL LIBRARIES.

No part of the school equipment is more important than the Library. There is no field of human enterprise in which the man who uses a library has not an advantage over the one who does not, and the school is the place where he should acquire the habit. Besides, the use of the High School library is the indispensable concomitant of the independent work which the new regulations enjoin. In this connection, two matters are of prime importance—the character and the situation of the reference books. Occasionally, some of the books are at present better adapted to the use of the adult, and the library is inconveniently situated. In the selection of the books the necessities of the junior pupil should be borne in mind as well as those of the senior; and the books themselves should always be readily accessible, and need not all be kept in the same room. The general reference books might be kept in a special room or in the Principal's room, of which the senior pupils should have the freedom during their study periods. Sometimes, however, the reference books most in use are, with advantage, kept on reading stands in the main hall, But the special reference library of each department would be more serviceable if in the class-room where it is most in demand. Manifestly, when a reference book is needed, it should be close at hand. Here it is well to emphasize the fact that the Education Department has just issued a Supplement to the Reference catalogue of 1902. No book has found a place in either catalogue the value of which has not been attested by competent authorities. Teachers may, therefore, make their selection from either with confidence in its reliability.

TEXT-BOOKS.

Since the issue of the list of 1904 some additional High School text-books have been authorized. Two in particular deserve special consideration: Baker's *Theoretical Geometry for Schools* and *The Principles and Practice of Reading*. The former has been prepared for the use of the forms that will go up for the University Matriculation and the Teachers' non-professional examinations of 1907; for the new courses in Geometry come into full operation in both the Middle and the Upper Schools after the examinations of 1906. Many of the selections in *The Principles and Practice of Reading* are suitable for the Literature class and may be so used also; but the book has been prepared especially for the classes in Oral Reading, and experience has shown that the

Reading lesson loses much of its freshness if the selections have already been used for another purpose. Oral Reading is subsidiary to Literature teaching, and the meaning of the passage is the first and an indispensable step in the Reading lesson ; but the main object of the Literature lesson is the cultivation of taste, while that of the Reading lesson is the effective rendering of the author's meaning. These objects are best secured in the earlier stages, at any rate, when the main object in each case is kept steadily in view. We should have correlation without confusion. The plan of *The Principles and Practice of Reading* is an excellent one, and, if properly used, the book will do much to lighten the teacher's labour and make his work more effective.

In par. 2, of the authorized text-book list, the following is emphasized :

"Books authorized for use in the Public Schools may be used in the Lower School, and it is recommended that, so far as the Principal may deem it advisable, these books be used for the first year instead of the corresponding High School books."

The recommendation applies to the Public School text-books in Arithmetic, English Grammar, History, and Geography. These books are seldom if ever completed in the Public Schools, and, for economic reasons, should be used the first year in the High Schools. With such additions as the competent teacher will supply, they contain ample material for the period. A change in text-books should be made only after due deliberation and only with a new class ; and the responsibility for advising the School board on the subject devolves on the Principal and not on his assistants, although, of course, the judicious Principal will seek their advice when their interests are affected. Reasonable notice should also be given by the Principal to the local bookseller, of any changes to be made in the text-books used in the High School. It has sometimes happened that desirable changes have been delayed in order to enable him to get rid of stock he has on hand. Sometimes, on the other hand, he has been treated with scant consideration.

TEMPORARY CERTIFICATES.

Reg. 37 (2) reads as follows :

"If, after due advertisement, a High School Board is unable to obtain a legally qualified assistant, a temporary certificate may be granted by the Minister of Education for the current half year to a suitable person on application to the Board."

When the occasion arises, it will be proper for the Principal to point out to his Board that the application of a legally qualified teacher whose non-professional certificate includes the work to be done, is entitled to acceptance, no matter what may be its grade ; and that a temporary certificate must be secured under the regulation, before the person without the legal qualification can be appointed. If a board desires a higher qualification than that available under its first advertisement, it is open to it to advertise again, offering a larger salary. On its failure, after reasonable efforts, to secure the kind of teacher it wants, a printed form will be sent on application to the Deputy Minister, to be filled in with such a statement as will enable the Minister to dispose of the case with due regard to both the local and the general interests. Reg. 35 (4) provides the Department with the means of enforcing its decisions. The scarcity of teachers which, it is alleged, has become acute in some departments, makes Reg. 37 (2) of more importance now than heretofore. The existing stringency, however, is not wholly attributable to this

scarcity. The salary question, it is well known, is the important element in the situation. Competent teachers will remain in their positions and competent teachers will return to the ranks if adequate inducements are offered them.

SCHOOL DECORATION.

In grading the accommodation special importance is now attached to School Decoration (See Reg. 149, (5) and (7). Not only should suitable color schemes be adopted for calsomining or papering the halls and class-rooms, but the walls (including, of course, those of the Assembly room) should be decorated with good pictures; and casts, vases, and other ornaments should be provided. After 1905, Grade I. will, accordingly, not be given the halls or the class-rooms which are bare of ornament or unsuitably colored. In the present condition of most of the schools of the Province, it would be unreasonable to expect paintings (and the chromolithograph is seldom good); but good photographs (especially carbons), etchings and engravings may be bought at moderate prices, and, in the matter of casts and vases, the form is of more importance than the material. Quality is more to be desired than quantity; all the Education Department expects is that each school shall, from year to year, make a reasonable effort to comply with the requirements. Very generally, as is well known, we have good substantial school buildings, and grounds that are by no means discreditable We should now make an organized effort to improve the interiors. To this end the Literary Society and the Graduating Class may be expected to contribute, not to speak of public-spirited citizens. In the words of U. S. Commissioner Harris, our pupils should have "not merely the piety of the heart, but the piety of the intellect that beholds truth, the piety of the will that does good deeds wisely, the piety of the senses that sees the beautiful and realizes it in works of Art."

On p. 63, Section XIV. of the High School Reference Catalogue of 1902, will be found suggestions on the subject of School Decoration. No more useful book has been published on the subject than Burrage & Bailey's *School Sanitation and Decoration* ($1,50. D C. Heath & Co., Boston). Every school library should have a copy and every School Board and Principal should consult it.